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FEDERAL TRADE COMMISSION
THE EVOLVING IP MARKETPLACE
THE OPERATION OF IP MARKETS

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PANEL 3: MARKETS FOR IP AND TECHNOLOGY: ACADEMIC
PERSPECTIVES

MODERATOR:

JOEL SCHRAG, FTC

PANELISTS:

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P R O C E E D I N G S

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MR. SCHRAG: Okay. Good afternoon. And welcome back to the FTC's hearings on the evolving IP Marketplace. My name is Joel Schrag. I'm an economist in the Bureau of Economics at the Federal Trade Commission. And it's my pleasure to welcome you to our panel on Academic Perspectives on Markets for IP and Technology.

And we really are delighted this afternoon to have a great group of panelists with us who spend a great deal of time thinking about how these markets work and the role that patents play in these markets. So we're hoping to talk a lot about the issues of whether these markets are working well and potentially what sort of public policy changes could make them operate even better.

We have one panelist who unfortunately was unable to be with us today physically, but we've arranged to have her here in electronically. And I think what we'll do is hear from her first. The panelists are each going to have an opportunity to do a short presentation on some topics or questions that they particularly want to emphasize. And then after those presentations are done we will have the

1 opportunity for a roundtable discussion.

2 So hopefully Rosemarie Ziedonis is with us by
3 telephone from Ann Arbor.

4 Rosemarie, are you there?

5 DR. ZIEDONIS: I'm there.

6 MR. SCHRAG: That's great. So we're going to
7 begin by hearing from you.

8 DR. ZIEDONIS: Great.

9 MR. SCHRAG: Rosemarie is an Assistant Professor
10 of strategy at the University of Michigan's Stephen Ross
11 School of Business and CoDirector of the Program in Law,
12 Economics, and Technology at the UM Law School. She's the
13 author of numerous papers on the value and strategic use of
14 intellectual properties as well as broader aspects of
15 technology and innovation management. She has prepared some
16 very interesting slides for us today, and I will be managing
17 that aspect of her presentation.

18 So, Rosemarie, when you're ready, I have your
19 presentation up on the screen.

20 DR. ZIEDONIS: Okay, great. First of all, thank
21 you, Joel, for making this possible for me to participate.
22 I have not really given a joint presentation since my old
23 days of presenting work with Bronwyn, so this is quite fine.

24 And, Bronwyn and Hank, hello. And hello to others
25 on the panel and at the event.

26 So one nice thing about participating, as Joel
27 gave us some flexibility, in just presenting trends and

1 things that we thought might be relevant either directly to
2 the topic at hand, which is how these markets for
3 intellectual property actually function or not, which may be
4 the case of my presentation.

5 So one of the things that I would just like to
6 focus on is the role of start-ups. We traditionally think
7 of them as sources of new technology, so for those of you
8 there in the Wells Fargo Room and near San Francisco, we
9 think of this with, of course, Google and search-engine
10 technologies or YouTube with video streaming. But, of
11 course, when we are thinking about markets for patents,
12 start-ups, I think, are also an important supplier in those
13 markets. So I'd like to provide just some framing around
14 those issues. So if you go to slide 2, please?

15 So relative to large public firms, I think that
16 start-ups tend to fly below the radar screen of academic
17 research. Thankfully there is momentum going to change
18 that, but still I think we know a lot more about the
19 innovative activities and also the patenting activities of
20 larger public firms relative to start-ups.

21 Now there are several reasons why in part because
22 we lack the comprehensive SEC-required databases like
23 Compustat and others for public or private -- I mean for
24 private and smaller companies. There are databases like
25 Corptech, and Venture Economics, and VentureOne, which are
26 extremely useful, but they also have reporting biases that
27 we need to be aware of when using them.

1 There are also pesky name changes that for the
2 entrepreneurs in the room I'm sure that that makes a lot of
3 sense when you're redirecting your companies, but it sure
4 makes it hard to track your patenting activities because
5 it's hard to then match which company names are the same
6 company and bundle patents accordingly.

7 Then, of course, many companies exit either
8 through acquisition or liquidation sometimes two, three,
9 four years after founding, which makes it difficult to then
10 identify patents coming out from these firms.

11 Now despite those challenges to research, I think
12 there's a widespread acknowledgment that start-ups are
13 important, not just in generating new technologies but
14 increasing attention to their role as suppliers in these
15 markets for patents as alluded to earlier. Perhaps one
16 example of that is the Commerce One, the controversy
17 surrounding the Commerce One patents that come of course,
18 generated multiple millions in revenues at auction.

19 So the goals of my presentation, moving on to
20 slide 3, are really to provide some framing around this and
21 maybe even tying together some material that perhaps was
22 discussed in the IT and life science panels earlier from
23 today. So I'd like to provide just some summary statistics
24 that I have compiled on patenting activities of start-ups in
25 two information technology sectors, semiconductor devices
26 bridging on to some work that Bronwyn and I have done
27 together, and then software. And then I'm tracing those

1 patterns over a fairly long period of time from the mid-
2 1980s through 2005. Of course that is particularly
3 interesting in the context of software, where we've had a
4 lot of legal rulings, both in the case of copyright and in
5 patents, particularly through the decade of the 1990s.

6 Now for a perspective, which I think is sometimes
7 lacking, we tend to either focus on IT or we focus on life
8 science, but for perspective I'd like to place some of these
9 trends alongside comparable statistics in one life science
10 sector which I have selected as medical devices.

11 Now the data that I am going to be showing you are
12 part of an ongoing study of patents and entrepreneurial
13 firms financing that in the process of working on some of
14 which is coauthored with David Hsu at Wharton.

15 So going to slide 4, the sample of firms that the
16 data are based on, so basically what I've done is to collect
17 a similar cohort of start-ups -- these are all US-based
18 companies that were founded during the period of 1987
19 through 1999, which then gives us, you know, the period of
20 years postfounding to track their patenting and also
21 financing activities.

22 Now all of these companies received at least one
23 round of venture financing. And part of the reason that
24 restriction is on there is one of my primary data sources is
25 VentureOne, which has been a really useful source of data,
26 not just on founding years, but on name changes of these
27 companies. So we emerge basically the VentureOne financing

1 data with a pretty extensive search of Delphion for the
2 searches of US patents awarded to these companies through
3 2005.

4 So going to slide 5 the sample size is reasonably
5 large. I've got about -- so if you look at the bottom of
6 the slide -- about 300 semiconductor device start-ups,
7 almost 600 medical device firms founded during that same
8 period. And then look at the number of software companies,
9 so about 25, more than 2500 software companies. Of course
10 that larger number is indicative both of the Internet bubble
11 -- recall that I've got founding years 1998, '99 included in
12 there. So that's picking up on some of the widespread entry
13 during that period. and also I think it's reasonable to
14 assume that there are lower cost of entry in software
15 relative to the other two sectors.

16 Now the bars in this figure are the numbers of
17 patents collectively awarded to these companies through
18 2005. You'll see that overall about half of these patents
19 are awarded to the medical device companies, perhaps not
20 surprising. And the remainder is divided about equally
21 between the semiconductor companies and the much larger
22 number of software companies.

23 Now when -- interpreting anything out of these
24 statistics is a little bit difficult, because we have
25 several things going on here. We've got patents, but we
26 also have larger numbers -- a variation in the number of
27 companies and the amount of capital that they would have to

1 devote towards patenting activities.

2 So moving toward slide number 6, coming at this
3 from a slightly different angle lets us kind of, I think,
4 get a clearer picture of the intensity with which start-ups
5 in these sectors are filing patents. So here I'm going to
6 just take an average to depict how aggressively the average
7 startup in each sector is filing patents. And as a proxy,
8 what I am doing is using the cumulative amount of funds
9 raised. So this is private equity raised preexit,
10 regardless of whether that exit is liquidation, acquisition,
11 or IPO.

12 So moving to slide 7, this is a plot of what I'm
13 calling here are the average propensity to patent. Normally
14 when we compute these statistics for public companies, we
15 denominate this by R and D spending. I don't have that for
16 private companies, so that's why I'm using this cumulative
17 amount of funds raised.

18 So to interpret these statistics here it looks
19 more like the medical device companies and semiconductors
20 are -- the gap between those is actually more narrow than
21 may have been suggested at just the cumulative volume of
22 patents. This suggests, just to focus on medical devices in
23 the middle, that the average startup in medical devices is
24 successively filing nine patents for every \$10 million of
25 funds invested. That's about 6.5 patents per 10 million for
26 semiconductors and then much lower thresholds -- not
27 surprising to many of the room, I'm sure -- about three

1 patents per million for the software companies that patent.

2 Now moving on to slide 8, another way of looking
3 at this is to compute the percentage of start-ups that
4 successfully file or receive patents -- and I should make
5 clear that I'm only looking at US patents, as was perhaps
6 clarified in an earlier slide, but I do not have data, just
7 to be clear, on European or Asian filings.

8 But moving then to slide 9, I compute this
9 percentage of start-ups with patents pending or granted,
10 dividing the sample into really two different viewpoints.
11 The set of bars on the left are looking at the exit or the
12 last round of financing. So this includes companies that
13 went bankrupt and also those in the sample that are still
14 private. Then if you look at the right side, we have just
15 as the subset of companies that successfully exit through an
16 IPO.

17 And there I think it's pretty interesting to see
18 that almost all of the start-ups in semiconductor devices
19 and medical devices, so the two device sectors have patents
20 before filing an initial public offering. And about 50
21 percent -- so this actually hovers closely to some
22 statistics that Ronald Mann had shown in an earlier and
23 smaller sample. But about 50 percent of the software
24 companies that filed for a public offering have patents.
25 And that's aggregated over the entire '87 through 2005
26 period.

27 So moving to slide 10, I'd like to zoom in and

1 look at trends over time for just that IPO subsample.

2 So going on to slide number 11, what I've done
3 here is plot that similar percentage with patents pending or
4 awarded, I should say, at IPO by the sectors over time. And
5 starting in 1995 going through 2002, just to give you a
6 sense of the trend, I think it's pretty interesting. I mean
7 here you see that the general findings of -- it's highly
8 unusual for device companies, whether it's medical devices
9 or semiconductor devices, not to have patents pre-IPO,
10 almost all of them, so 95 percent to a hundred percent have
11 patents pre-IPO during that entire sample.

12 I think it's even more interesting to look at the
13 trend line in software, which is the bottom bar that climbed
14 steadily from about 38 percent up to over 80 percent between
15 1995 and 2002. Now that's consistent with work, recent
16 work, of Bronwyn Hall with Megan McGarvey and others,
17 suggesting that some of these legal rulings that tilted
18 preference more toward us, toward software, toward the
19 patenting of software-related inventions and increased
20 actually, I should say, the private value of patents in
21 software-related arenas.

22 So moving on to slide 12, I think another
23 interesting snapshot coming through with the trends in our
24 data is appearing for the subset of companies listed as
25 failed or defunct by 2006.

26 So let's look at the same percentage of start-ups
27 with patents pending except with that subsample of failed

1 companies in slide number 13.

2 So here we see at the top that -- you know, again
3 it's -- medical device companies file patents regardless of
4 whether they're going IPO or go bankrupt. We have a high
5 percentage consistently of medical device companies with
6 patents that fail. More interesting I think is the upward
7 trend line in both of the IT sectors. So it looks like for
8 semiconductors we have an upward trend starting around '99.
9 And then for software perhaps more recent and not to the
10 same, perhaps, degree but still an upward trend in the
11 percentage of failed companies that have patents by the time
12 they are the liquidated.

13 Now a couple of things, I think, are interesting
14 in terms of how we might interpret those statistics. And
15 admittedly my interpretation here is somewhat speculative.
16 But one interpretation could be that this is just part of
17 the overall increase in the propensity of these firms to
18 file patents in the wake, especially in software, of *State*
19 *Street Bank* and some of these other rulings.

20 I think it's also plausible to think about this as
21 they increase in the shakeout of higher-quality, if you
22 will, start-ups in IT sector following the plummet in
23 technology and also financing markets for these companies
24 post-2000. So if that latter interpretation is correct, I
25 think what this means is that you have an increase in the
26 supply of failed and also higher-quality companies that
27 could presumably have both higher-quality technologies to

1 offer and perhaps reasonably valuable patents surrounding
2 those technologies.

3 On slide number 14 this is just to give you a
4 sense that these are not necessarily small numbers we're
5 talking about, even with my sample of only venture-backed
6 companies. Look at the number of failed companies in
7 software. If you add up the number of defunct software
8 companies in founding years that were last founded in 1999
9 through 2001 of over 500 of these companies in the sample --
10 of course not all of them have patents, but an increasing
11 share does, as suggested by the earlier slide.

12 So, in summary, going to slide 15, among VC-backed
13 start-ups, I think that these slide show that a relatively
14 large share of resources is devoted towards patenting
15 activities, particularly in the two device or product, you
16 might think, are sectors, semiconductor devices and medical
17 devices, now that finding perhaps suggests that IT start-ups
18 and medical or life science start-ups may not be so
19 different as we typically characterize them in the
20 literature.

21 In the overall '87 through 2005 period, clearly
22 the software companies are at a lower threshold in terms of
23 the overall financial resources that they devote. Now
24 looking more at the successful companies that go public,
25 it's highly unusual again for start-ups not to file patents
26 pre-IPO in the two device sectors building on the earlier
27 points. But it is increasingly common for the software

1 start-ups to have patents pre-IPO. For failed start-ups
2 that are disbanded, I think it's interesting to note that
3 within the IT sector, both in semiconductors and software,
4 that steep climb post2000 in the percentage of failed
5 companies with patents, I think it raises the interesting
6 possibility that this has increased the supply of patents
7 available for the market, if you will.

8 Then my final comments are really some questions
9 that I think are completely unresolved by anything that I
10 have done and I would put on the table for others perhaps on
11 the panel or participants. And the first question is:
12 Well, how important really are failed start-ups in these
13 markets for patents. I told you these patents exist. It's
14 entirely possible that all of them basically were allowed to
15 lapse. I haven't said anything about the share that were
16 reassigned or sold to third parties. I would like to look
17 at that, but I haven't done so yet.

18 I think it's also interesting to think about where
19 that post-2000 shakeout temporarily boosted the supply of
20 high-quality patents. I think that's interesting because it
21 suggests that, you know, five years from now you may have a
22 very different scenario than what we've been dealing with
23 for the last couple of years, at least in IT-related
24 markets.

25 The second point I think is quite important from a
26 policy perspective and that is how important are these
27 patents sales as a means for investors and entrepreneurs for

1 recouping returns to their investments. So I think that
2 it's possibly very important, but I think, you know, it's
3 very important to keep in mind that if these patents are
4 basically sold in bankruptcy proceedings for fire-sale
5 prices, then it's unclear to me how these markets for
6 patents are actually stimulating the financing of these
7 entrepreneurial firm activities.

8 The third question is, to my knowledge, we know
9 very little about the incentives of patent buyers. It's
10 easy to talk about these, this development of markets for
11 patents as being about further commercialization and further
12 development. I think that's fantastic, but I think it's
13 also possible that companies are buying patents to enforce
14 getting back at some of these debates perhaps over patent
15 trolls. And then also we have other motives for perhaps
16 just self-insurance where there is a concern for having
17 these patents being asserted against companies and,
18 therefore, an attempt to acquire them, as was revealed to be
19 the case with Novell's acquisition of the Commerce One
20 patent discussed earlier.

21 And then finally one thing I think that this
22 conference is excellent and well positioned to address is
23 how have the recent legal rulings affected either the types,
24 or the quantity, or the quality, if you will, of these
25 patents being bought and sold on these markets.

26 And then I think the bigger question of all is
27 really what are the implications of those rulings on

1 innovation incentives. So hopefully others on the panel
2 will have perspectives on those issues. Thank you very
3 much.

4 MR. SCHRAG: Great. Thank you very much,
5 Rosemarie. You've raised a lot of very important questions.

6 Our next panelist is Bronwyn Hall who is a
7 professor at U.C. Berkeley. We're taking advantage of the
8 great wealth of resources available at Berkeley in this
9 area. Bronwyn is a Professor in the graduate school and
10 also Professor of Economics of Technology and innovation at
11 the University of Maastricht in the Netherlands. He's a
12 Research Associate at both the National Bureau of Economic
13 Research and the Institute for Fiscal Studies in London.
14 And as I'm sure many of you know, for many years she's been
15 a prominent researcher on questions of innovation. And we
16 are delighted to have her here with us today.

17 DR. HALL: So thanks a lot, Joel, for asking me
18 again to speak. And is Rosemarie still there, or is she
19 off? I was going to say hello to Rosemarie and give her a -
20 - I was -- I had her slides ahead of time, and I checked.
21 It's an interesting fact. The three technologies that she
22 was studying are technologies that are actually well defined
23 by the SIC Codes. And so it's fairly straightforward to go
24 to the publicly-traded firms and figure out what their
25 patents to R and D ratio is and how many of them patent.

26 And it turns out that they look pretty much like
27 these firms. And the variation across sectors looks

1 similar. And it's also the case that patents for 10 million
2 raised is actually quite similar to patents for 10 million R
3 and D, which sort of tells you that most of the money
4 they've raised is really the R and D money, right, and not
5 something else, or they're patenting very intensively
6 compared to the publicly-traded competitors in the same
7 sector. It's kind of interesting. It's a benchmark that I
8 think, you know, it's useful to look at.

9 So what do I want to talk about here? Well, first
10 of all, I did want to apologize to the visitors for the
11 weather, which I'm sure you weren't planning on this when
12 you scheduled hearings on May 3rd in Berkeley, California.
13 You are probably hoping that the weather would be nicer. My
14 understanding is the weather is nicer in Washington, D.C. I
15 have a daughter there, and I hear about it.

16 So I was going to talk about three topics
17 hopefully quickly, which is why I'm not using slides.
18 Nonpracticing entities, independent invention prior user
19 rights, and some data issues or data needs which are related
20 to the first two.

21 Originally I thought I might repeat the obvious,
22 but I think I'll skip that, about why we want a patent
23 system. I think most of you know why we want it. I think
24 the main thing is to remember that stronger is not better.

25 Nonpracticing entities, people have a lot of
26 different definitions for this and Rosemarie kind of hinted
27 at the issue in her presentation. I am using a real simple

1 definition which is a patent holder that doesn't practice
2 the invention on which he holds a patent. There is a long
3 list actually of benefits that you can imagine from the
4 existence of nonpracticing entities.

5 First of all, from an economic point of view it
6 allows efficient specialization and knowledge production.
7 It allows firms that are good at knowledge production to do
8 that and not be forced into doing other things they may not
9 be as good for -- as good at. It reduces reliance on --
10 returns to scale or scale economies to protect your
11 innovations and trade secrecy, in other words, having to
12 keep -- we might say that one of the features of the high-
13 technology firms prior to strengthening of the patent system
14 in, say, the mid-1980s, was a greater reliance on scale and
15 trade secrecy and keeping things within the firm because
16 that was the way you protected knowledge.

17 So one thing patents might be good at is -- and
18 particularly nonpracticing entities might help here -- is
19 favoring more competition in the knowledge area.
20 Rosemarie's discussion was about this idea that it enables
21 venture capital financing because you have this title to
22 whatever the idea that the firm is prospecting -- the firm
23 is, of course, isn't yet a producing entity so it's useful
24 to have this title.

25 There is actually now a reasonable amount of
26 empirical evidence that does indicate both in Europe and in
27 the U.S. The ownership of patents within a sector does

1 speed up, maybe, your access to venture capital financing.
2 In other words, there is some evidence that this is true,
3 there's some empirical evidence.

4 The other argument which is an argument that
5 theoretically is extremely correct, and I think it's an
6 interesting question whether it's true in practice, which is
7 that because you have this title the salvage value of a
8 failed dot-com or some other firm like that that's basically
9 producing intangibles is now higher because they can sell
10 off the IP if they fail. And, of course, there's huge
11 amounts of uncertainty in start-ups. You don't expect them
12 all to succeed. So it's perfectly legitimate that some will
13 fail that have good ideas or have some piece of intellectual
14 property that's valuable.

15 Given that you've increased the salvage value of
16 such a firm, now you've made it easier to finance such firms
17 *ex ante*. Okay. Now that's a clean financial economics
18 argument, but the question is: How important is it in the
19 behavior of both venture capitalists and firms. And the
20 answer is: I really don't know.

21 There's also some empirical evidence that when
22 you're in a technology that has stronger intellectual
23 property rights you do get more technology licensing and you
24 get earlier technology licensing. It gets distributed
25 faster. Okay.

26 So now what are the costs, because -- costs in the
27 sense of the social welfare costs or the cost to innovation

1 of having nonpracticing entities. I think we all know that
2 there's been an enormous amount of controversy over this,
3 okay, controversy which I think is legitimate but I also
4 think is primarily due to a different cause than the
5 existence of a nonpracticing entity. It's due more to the
6 fact that we had a period, which hopefully is now coming to
7 an end, when a large number of very dubious patents got
8 issued in some technologies.

9 I mean, things have changed, you know. Rejection
10 rates are up. There's various court decisions that make
11 obviousness not as big a problem as it was before, et
12 cetera. But there still is this long period.

13 And the second thing is that the bargaining
14 strength in negotiations is probably too strong for any
15 number of reasons, at least in some technologies, the
16 bargaining strength of a patent holder relative to the
17 patentee. I'm reviewing for some of you the things which
18 you already know, but these are controversial assertions
19 because you can find plenty of people who will say: In my
20 sector it's working great and, you know, this isn't a
21 problem.

22 So why do I think the bargaining strength is
23 probably too strong? Well, the preliminary injunction
24 threat is extremely powerful in a -- you know, but we have
25 the eBay but, you know, still we don't know yet. We haven't
26 yet seen things play out long enough to know whether that
27 has fixed this problem.

1 Basically the story, of course, is that when you
2 have a complex product you know like a mobile telephone or,
3 you know, any complex electronic product or even a complex
4 software product that reads on many, many, many patents held
5 by many people the preliminary injunction threat is way in
6 disproportion generally to the technology embedded in a
7 single part of this complex product.

8 Now it's possible, it's not impossible, that in
9 some cases that even though it's a complex product and even
10 though it has hundreds of patents reading on it that one of
11 two of them are really, really the important one. But I
12 think that's the exception rather than the rule. And so the
13 threat of shutdown in the face of, you know, one out of a
14 hundred or one out of 200 essentially puts a lot of pressure
15 on a potential infringer to settle rather than to fight and
16 possibly invalidate the patent.

17 We have considerable economic research by my
18 colleagues here in particular -- I'm thinking of Joe
19 Farrell, who's in the room, or Lemley and Shapiro, if
20 Shapiro is not in the room -- that the low-quality patents,
21 which is to say patents that might be invalidated if you
22 reexamined them or had used a higher standard when issuing
23 them, that low-quality patents can be just as powerful for
24 this as high-quality patents because of the fact that, A,
25 there's free writing so people individually don't have
26 enough incentive to invalidate a patent if they are going to
27 benefit 20 other firms when they do it and, secondly, for

1 the simple fact that there is a risk attached to that
2 strategy. The risk is that you lose.

3 And the cost of losing may be so high, especially
4 if you have this preliminary injunction threat -- I mean
5 this was the -- in a sense Rosemarie and I worked on this in
6 semiconductors. There it was clear that the preliminary
7 injunction threat was overall for those firms, for the
8 manufacturers in semiconductors, because the cost of
9 investment in a plant was so high that you couldn't shut it
10 down, even for a month without suffering serious loss.

11 The final story is -- actually there's another
12 issue here that increases the bargaining power -- and this
13 is an area where I think the patent reform bill has been
14 coming and going on. I'm not sure where it stands now -- is
15 the willful infringement issue, which is even if you think
16 there is a good reason to believe you're not infringing,
17 once you got the letter now you're liable for triple
18 damages. And this is a very -- you know, the bargaining
19 point just went up again. I mean, you know, there's a whole
20 list of reasons why there is too much bargaining power on
21 one side relative to the other side.

22 The reasonable royalties principle -- this is a
23 very interesting one. I'm going to tell you this, the facts
24 that we know on this, because the facts we know are too
25 limited and it's precisely for reasons I want to discuss
26 later, the facts we know -- Lemley and Shapiro made a
27 considerable effort to find out what court awarded royalties

1 were by technology in the case of a reasonable royalties
2 principle being applied, okay?

3 Now this is extremely difficult because most of
4 the time you can't find the settlements. Okay. They're not
5 there; they're confidential. There's various reasons why
6 you can't find them. But they did it on a small subset.
7 And what they found was that the court-awarded royalties
8 were on average 10 percent in electronics and 14 percent in
9 chemicals-bio area.

10 Most of us would say: That seems too small a
11 difference based on what we know about the technologies,
12 okay, that there ought to be a bigger wedge between the
13 electronics reasonable royalties and the chem-bio reasonable
14 royalties. But, you know, you don't actually know how
15 selective this sample is. It's possible the only cases we
16 see are the ones I talked about where, yes, there are 400
17 patents, but only two patents were important, right, in the
18 electronics case. In that case, you know, you might get
19 high reasonable royalties in electronics. It's just really
20 hard to say because the data is really slim.

21 So that's all I wanted to say about -- I mean
22 except for the one -- I could give you a couple of facts
23 about nonpracticing entities. The evidence is fairly clear
24 that patent case filings from nonpracticing entities have
25 increased a lot in the last few years. Now that could be
26 because there is a lot of technology out there to salvage,
27 right? That's one of the things Rosemarie was hinting at.

1 But probably it's also because this is a profitable business
2 opportunity, and it attracts people into the business.

3 I have some numbers from a firm started by Dan
4 McCurdy, who used to be at ThinkFire, now called
5 PatentFreedom, which show that the number of new patent case
6 filings by nonpracticing entities has basically since -- the
7 late '90s it was about 50 a year and now it's up to 300 a
8 year as of, you know, 2007, 2008.

9 Rosemarie and I have confirmed this pattern in
10 semiconductors, but it's very preliminary work. And Josh
11 Lerner has a piece on patenting in the financial method
12 sector. And there if you're a small entity and you own a
13 patent, the probability of that patent is in litigation is
14 greater than one. Okay, right.

15 Now most people don't think probabilities can be
16 greater than one but, of course, a patent can be in
17 litigation in more than one place. Basically they are being
18 asserted by small entities against large entities in that
19 sector very, very dramatically.

20 Independent invention. I'm aware of my chair here
21 and I'm thinking maybe I'll have to close out, so I'll be
22 fast on this.

23 MR. SCHRAG: We can even always return to it
24 later.

25 DR. HALL: We could always return to it. But I
26 think it's worth getting this out there, because...

27 Independent invention has been proposed by several

1 people as a solution to this problem of inadvertent
2 infringement when there are many, many minor patents
3 covering a technology, not always clearly written. I mean
4 those patents are -- you know, searching is not always an
5 option here.

6 There is an obvious cost, Independent invention
7 defense, right? I mean if we allowed an Independent
8 invention defense there is a discovery that looks like
9 costly to me -- you know, lawyers can say better, but it
10 looks like a lot of discovery to me -- to prove, right, or
11 disprove Independent invention.

12 However, there is a benefit which is the fact of
13 Independent invention suggests the invention was not
14 nonobvious to persons having ordinary skill in the art,
15 okay, if you can actually prove it.

16 Shapiro shows basically, using simple models, that
17 the welfare is almost always higher if you allow Independent
18 invention defense, but that's fairly, you know, that's in a
19 limited setting.

20 Mark Lemley talked earlier at one of these
21 hearings, but I'm not sure that he talked about this. He
22 has a paper in which he suggests four modest proposals,
23 which actually don't go to full Independent invention
24 defense, which I think solves some of the concerns that you
25 might have if you went to the full Independent invention
26 defense.

27 One of them is that only proved copying be

1 considered willfulness, okay, not Independent invention, you
2 know, which kind of reducing, changing the willfulness
3 standard. Using prior user rights instead of Independent
4 invention, which is subtly different because it has to do
5 with timing. Prior user rights is a subset of the -- it
6 rules out the simultaneous invention problem.

7 Makes simultaneous invention relevant for an
8 obviousness determination when you get to court, if you're
9 in court and you're litigating in this area. Take
10 Independent invention into account when deciding to issue an
11 injunction. That should be one of the factors that comes
12 into this qualitative court test of should I issue an
13 injunction here or not. Okay.

14 So the final thing is data issues, and I'll just
15 summarize. One of the reasons we don't have answers to a
16 lot of questions is because the data is really hard to get,
17 the data that we really need, economists really need. They
18 really need to know values. So does everybody else, right,
19 to do these, to do transactions. I mean when the markets
20 for technology, to do transactions, you need to know the
21 value. You need to have a way of estimating value.

22 The two things that we miss most are better and
23 more consistent litigation data and the financial
24 settlements in patent suits. Now that's asking for a lot.
25 Would this cause settlements to happen before a suit is
26 filed, you know, to keep it out of the public eye? I
27 wonder. Okay. I do think that you're relying on the court

1 system; you're relying on public services to settle disputes
2 that in some sense the public is entitled to know what the
3 settlement was.

4 The second one, and it's more feasible I think it,
5 is the financial data for licensing. If you're going to
6 understand this market, you really -- and I'm not the first
7 person to say this; lots of people have said this -- you
8 really need to have some information on the transactions
9 that take place.

10 Now the auction sites are helping here a little,
11 because we're seeing prices coming off the auction sites.
12 But, of course, you have a large amount of licensing going
13 on where you really don't know what the terms are. And it
14 struck me that -- and especially this is an FTC hearing --
15 you know, mergers are reported at a certain level.
16 Alliances are reported at a certain level. Why not require
17 reporting of another arms'-length transaction in the
18 marketplace, which is a patent license in some standardized
19 way?

20 MR. SCHRAG: Okay. Thank you very much, Bronwyn,
21 for those comments.

22 DR. HALL: Well, I want to take notes.

23 MR. SCHRAG: You put a lot of issues on the table,
24 and I'm sure the people have a lot to say about them.

25 Our next panelist is going to be Henry Chesbrough
26 who is the Executive Director for the Center for Open
27 Innovation at Haas. It's not surprising he would be the

1 Director of that Center since he literally wrote the book on
2 open innovation. His work on this new paradigm has been
3 widely recognized for its important contributions.

4 So, Henry, maybe you wish to swap places so you
5 can do your slides.

6 DR. CHESBROUGH: Sure. That would be great.

7 Well, it's great to be here with old professors,
8 current colleagues, and the rest of us here. I'm going to
9 focus my remarks probably at a little bit more of a granular
10 level than Rosemarie and Bronwyn by going more to an
11 industry view as opposed to a societal view. But the things
12 I want to talk about here I think echo nicely the points
13 that were made in the last two presentations about enabling
14 markets for knowledge, the role of specialization that
15 emerges from that. And I think you'll see that in the data
16 I want to share with you.

17 Joel mentioned this idea of open innovation.
18 Shall I do that? Does that help?

19 A representation of an industrial R and D process
20 in a firm for many, many years could be taken to be
21 something like a funnel or sometimes you hear this called a
22 pipeline." And the imagery I think it's quite revealing
23 because whether it's a funnel or a pipeline, it's a solid
24 object that conveys flow through a process so that nothing
25 gets in and nothing leaks out.

26 And you think about the firm that Alfred Chandler,
27 a business historian at Harvard, wrote about, or if you

1 think of Bell Labs and communication technologies in the
2 1960s, and then Western Electric, the Bell system, and all
3 the Bell operating companies around the country, you can all
4 get these representations of a very, very deep but
5 essentially inwardly-focused model of innovation and R and
6 D.

7 And it was at some point that much of this was
8 done in the research organization, and then after a certain
9 amount of development things were handed over to the
10 development organization that was going to take this to a
11 specific market. And that developed new products and new
12 services that got out to the marketplace. And I'm leaving
13 out of this slide all the stuff that goes through channels
14 and distribution out to the market. That's also important,
15 but I suspect less so for today's hearings.

16 For a number of reasons this model I argue is less
17 and less appropriate in most industries, and I don't have
18 time here, although there is a lot of stuff in some of the
19 stuff I've written about what would be behind that, but I
20 think you can better understand innovation today in most
21 industries by thinking of it as an open process where now
22 we've got holes in the funnel so that things are flowing in
23 and flowing out throughout the process, not simply at the
24 very beginning or the very end. And this gets back to these
25 ideas of specialization, knowledge production, thinking of
26 this as a relay race as opposed to a marathon, if you wanted
27 more of a colloquial metaphor.

1 And so ideas can come from both inside and outside
2 at the beginning of the process. And they can proceed to
3 market through the company's own channels, own business, own
4 business model, or they can go to the market through others'
5 channels and business models, et cetera. So there are many
6 ways into this innovation process in this model, and there
7 are many ways out to the market from it, as well.

8 And the rest of the time -- this is important, I
9 think, if we're talking about intellectual property, because
10 intellectual property can enable this division of the
11 innovation labor and allow this relay race to go forward
12 without the baton getting dropped too often.

13 Some data that Rosemarie -- to give some context
14 to Rosemarie's remarks about start-ups is to look at where R
15 and D spending is occurring in the U.S. economy. And these
16 are data from the National Science Foundation based on
17 surveys, so there's always a lag in when these are reported.
18 But this is organized by the size of the company doing the
19 spending, so each of the numbers in these columns add to a
20 hundred percent.

21 So, for example, in 1981 70 percent of all the R
22 and D spending in the U.S. was done by companies of more
23 than 25,000 employees, obviously very, very large companies.
24 In that same year less than five percent of that R and D
25 spending was done in small companies of less than a thousand
26 employees. By 2005 those numbers had moved quite a bit.
27 The large companies haven't gone away, but they're now just

1 over 37 percent of R and D spending in the U.S., and those
2 small companies of less than a thousand people are now more
3 than 24 percent of R and D spending.

4 So one way of looking at this is that from 1981 to
5 2005 most of the growth in R and D spending activity has
6 been not with the large companies but has really come from
7 the small companies. And to a lesser degree, if we looked
8 at patents, we'd see a similar trend but less so. If we
9 looked at jobs, we would see a similar trend as well.

10 So it's important to understand that the playing
11 field which back in that closed model really favored the
12 larger companies. I think this more level playing field you
13 see in 2005 is more consistent with this idea of a relay
14 race, or specialization, or a lot of participants going on.

15 And then just to talk to semiconductors, because
16 we've talked about that a lot today and I know other
17 panelists did as well, I want to talk us through how that
18 evolved as an industry. There was a time when those first
19 semiconductor firms -- and I'm thinking of the Bell Labs,
20 the early days of IBM, and others where if you wanted to
21 build a semiconductor, you had to build the system that used
22 the semiconductor as well. There really were no independent
23 markets. Those were all part and parcel of the same thing,
24 because you couldn't really partition the technical design,
25 and there were no standards for what the functionality of
26 one ended and the other began.

27 One other thing was that companies like Intel

1 actually launched with the birth of the company in 1968 was
2 a second so-called independent device manufacturer or IBM
3 business model where they actually went after main memory
4 components in IBM system 360s and basically were making
5 replacement parts that were, you know, 10 times faster for
6 less money. And they didn't have all of IBM's marketing
7 assets, but they had a better technology. And there were
8 enough systems out there and Intel was able to figure out
9 enough about how those systems worked that they could plug
10 in their memory and substitute for that.

11 And companies like Texas Instruments and others
12 began to follow this model. But inside the chip it was
13 still all vertically integrated. Intel did all the design,
14 all the manufacturing, and all the rest.

15 In the 1980s that model evolved yet again, in
16 Taiwan this time with ITRI, a government national lab, and a
17 company called TSMC or Taiwan Semiconductor Manufacturing
18 Corporation. And here for the first time the manufacturing
19 of the chip got separated from the design of the chip. So
20 we talk about how much money it takes to run a fab. Bronwyn
21 mentioned this in her last remarks.

22 There's also a lot of money to design chips as
23 well. But with this separation of manufacturing from design
24 we saw a great deal of entry in the late 1980s and early
25 1990s of design-based semiconductor companies, many of which
26 were in the U.S. and many of the patents that you're seeing
27 in semiconductors come out of this period where these design

1 companies are going to outsource the manufacturing, receive
2 the chip back, and then sell their products into their
3 markets.

4 So as we look at these patent data over time it's
5 actually very important to understand the underlying context
6 of these business models, this partitioning or division of
7 labor, because the business models aren't static in these
8 periods. The period that Bronwyn was referring to about
9 trade secrecy in economies of scale matches well to the
10 closed manufacturers who do the whole thing inside.

11 But if you're going to be actually using multiple
12 foundries and this competing on your designs it's a
13 different story. And if you roll forward to today there is
14 much further specialization in this industry where you now
15 have companies that have specialized intellectual property
16 for chip design, or other companies who specialize in IP for
17 manufacturing, process technology; others that will do
18 verification and testing methodologies for you. And,
19 indeed, all of the entry in the semiconductor industry since
20 the early 1990s when the Koreans came into the market, all
21 of the entries since that time has come from the specialized
22 entrance doing specific pieces of the overall semiconductor
23 task rather than an end-to-end manufacturer doing the
24 design, the manufacturing, the construction, and testing,
25 and so forth, all under one roof. Even companies like Intel
26 today, their new Atom processor that goes for those net
27 books that they have, that's actually being built by TSMC.

1 So one of the things we see here is that
2 specialization promoted entry of new companies into the
3 business at a time when capital requirements were rising as
4 fabs were getting more and more and more expensive. If we
5 hadn't had the ability to enable this kind of entry, it
6 would have been a very, very tight oligopoly with only a
7 very few companies able to afford the massive multi-billion
8 dollar investments to do this. But with the discovery of
9 the foundry methodologies and then the more recent further
10 specialization, the cost of getting into the business is
11 much lower, provided you only tackle that one specific piece
12 of the business.

13 And I think, indeed, companies like suppliers to
14 the industry, like Applied Materials, are adding more value
15 with their equipment, which makes it easier for smaller
16 firms to get started. Companies like TSMC now have
17 something that -- their words, not mine -- they call an open
18 innovation platform where they essentially provide a whole
19 suite of intellectual property services. So you can kind of
20 have a turnkey if you use their tools and their approach and
21 this platform, you can build the chip, and they will
22 actually guarantee you a first pass-through successfully,
23 because you've done everything that complies with all the
24 stuff they have internally. So it's a story of increasing
25 specialization over time. So as you see these time-trend
26 analyses in semiconductors, keep this kind of history in
27 mind.

1 And then briefly I'll do something in a lesser
2 detail in pharmaceuticals, because we also see that industry
3 as well. And here I would argue, although we're in an
4 earlier stage, we are also seeing increasing specialization
5 of innovation labor in this industry, in part because the
6 so-called blockbuster business model has really broken down.
7 There just aren't enough multi-billion-dollar targets out
8 there for companies to go after any more. The markets are
9 getting smaller for each individual compound. The
10 innovation models are going to have to become more agile and
11 more open for companies to respond.

12 So, again, in the beginning, whether it was from
13 the lab all the way through to the patient, it was all done
14 in one company. So companies like Merck were the
15 paradigmatic examples of this. But we see specialization
16 emerge again typically in the 1980s with the biotech
17 industry, companies like Genentech in the late 1970s really
18 being forerunners in this.

19 Also clinical research organizations outsourcing
20 clinical trial development, acting a little bit like
21 foundries did in the semiconductor example. We have a lot
22 of companies supplying tools and instrumentation,
23 therapeutics, diagnostics, things that go alongside these
24 drugs.

25 Universities here are playing a really important
26 role at the early stages of these. So one of the things we
27 haven't talked about yet is the role that universities are

1 playing in these technology areas. I know Carol Mimura was
2 speaking here earlier. She and I are working on something
3 to try to advance the argument that universities also ought
4 to be more open in their policies toward getting things out
5 of the universities into industry as well.

6 And the final point to make here that we don't see
7 so much in semiconductors is that intellectual property
8 needn't be an all-or-nothing thing. There's a great deal of
9 contracting in pharma by what's called "field of use," where
10 you have the rights to the drug in one area, but I retain
11 rights to that drug for other areas.

12 And one recent example out of Berkeley that
13 demonstrates this, I think quite nicely, is a company called
14 Amyris that partnered with the Gates Foundation to develop
15 some therapies for malaria, to treat malaria overseas. And
16 they put all of that IP in this -- I think it was OneWorld
17 Health to go commercialize it. And Amyris created some of
18 the enzymes that could actually be used to produce this
19 vaccine. But they kept the IP rights for other applications
20 of these enzymes in other areas. And now they're actually
21 pursuing a commercial opportunity in biofuels in the energy
22 sector. Same IP, different application and a different way
23 of carving up the intellectual property.

24 One area that I wanted just to bring up because
25 once in a while good things happen and we sometimes don't
26 recognize them. I personally think that the patent renewal
27 fees have been a big policy success. And maybe we don't

1 give enough credit to whoever made that happen, but we have
2 a lot of evidence in the literature, and I'm assuming you
3 probably know it so I'm not repeating it here, that most
4 patents that companies do take out are neither used
5 internally nor licensed externally. So they essentially are
6 on the shelf, if you will.

7 Well, one of the nice things about renewal fees is
8 that it encourages companies to fish or cut bait. I can
9 think of more graphical metaphors, but you get my idea. If
10 you're not going to use it and we're giving you a monopoly
11 that allows you to exclude anybody else from using it, let's
12 at least make sure it's worth keeping this patent in force.
13 And so by charging renewal fees, we kind of encourage
14 companies to make sure they're serious about it. And I
15 think over time we clean up some of the mistakes or those
16 dubious patents that might have come out early on.

17 And, of course, when the renewal dates come due,
18 often if you're planning to not continue the patent
19 yourself, before you abandon it you might actually think
20 about, well, gee, I wonder somebody else might want this.
21 And that might be a secondary market that we can actually
22 begin to encourage.

23 Now I want to echo what Bronwyn said about the
24 lack of information here. It isn't just lack of information
25 for economists and policymakers. There is also a lack of
26 information for people in the industry trying to make these
27 choices. They also don't have good data on what these

1 things might be worth and what they might be able to expect
2 if they did this or that course of action.

3 So the actors themselves I think need a great deal
4 more, and I would like to echo that I think that U.S. PTO
5 when we do, for example, reassign patents, that's an
6 opportunity to publish more information. If there are
7 transactions being done and reported, that's another
8 opportunity. A third one I would say is with all these
9 court filings and settlements that are sealed, after a
10 certain interval, say, five years, open them. And five
11 years have passed, whatever commercial sensitivities are
12 there are presumably pretty minor at that point, and
13 although we'll have the five-year lag of what we're able to
14 see, we'll see a much better picture with the five-year lag
15 than we currently have today.

16 The final points I want to make are just all the
17 things that are going on in industry in this environment,
18 all the policy experiments at the business level -- I don't
19 mean public policy; I mean private firms. The biggest
20 nonpracticing entity that I know of is a company called
21 Intellectual Ventures. I suspect you're well aware of them.
22 They have been very reticent to share their own information,
23 but I hear through secondhand sources so unfortunately I
24 can't give you citations to this, that they have a very
25 large patent portfolio; a lot of capital; have done a lot of
26 licensing deals, some of which have been made public because
27 they are big enough to be material. There was one deal with

1 Microsoft early on. I think it was at \$80 million. Another
2 deal more recently with Verizon. I think that figure was
3 \$265 million. So these are major licensing activities.

4 You had John Amster from RPX, so he probably did a
5 good job of explaining what they are trying to do. In part
6 it's something of a response to the Intellectual Ventures
7 model. We already mentioned patent auctions of Ocean Tomo.
8 We're trying to actually look at those data to contrast what
9 the initial list price was versus what the actual
10 transaction price was and, if we can get it, what the
11 internal evaluation of the company was of that patent before
12 it went through the process to try to help parse how that
13 actually went through.

14 And I guess the last one I'll mention -- I don't
15 know, Rob, if you're going to talk about it -- is the Merck
16 Gene Index, which I think is another interesting aspect here
17 where -- I think of this as preemptive publishing where,
18 instead of patenting for the right to innovate, this was a
19 case where Merck decided to preemptively provide a lot of
20 research funding to universities for genetic markers, then
21 compile all that research output, and publish those data as
22 a result of putting that in the public domain making that
23 something that couldn't be patented and, therefore, giving
24 Merck a commons from which they could launch their own
25 investigations and discoveries without fear of being blocked
26 by some enterprising biotech that had a great patent on a
27 particular part of the genome on chromosome 4. I don't

1 think I'll talk more about that or not.

2 So what does this mean? And I think this is my
3 last slide. I think this more open innovation process I
4 began with requires both the buying and the selling of
5 intellectual property. Unfortunately, those markets today
6 are highly inefficient. And like other highly inefficient
7 markets that means there are the insiders and then there's
8 the rest of us. And, frankly, the insiders have a huge edge
9 over everybody else. I haven't done the economics, but it's
10 very unlikely to me that this is likely to be either
11 socially optimal or even allocatively efficient. We can do
12 better.

13 I think where we start to do better is through
14 better information. So where can we provide more available
15 information to try to reduce these price dispersions and
16 information asymmetries between the insiders and the
17 outsiders. And I think we're already seeing in companies,
18 and we'll see this more, preemptive strategies like that
19 Merck Gene Index or others, where companies try to take into
20 their own hands to try to give themselves some protection
21 against the nonpracticing entities or the other challenges
22 that they perceive in their environment that might hold them
23 up. That's it. Thanks very much.

24 MR. SCHRAG: Thank you very much, Henry.

25 I think that we're going to take a very short
26 break since we got started a little late. So we will
27 reconvene at 20 after 3:00.

1 (Afternoon recess taken from 3:15 p.m. to 3:30
2 p.m.)

3 MR. SCHRAG: If people could take their seats,
4 we'd appreciate it, so we can get the rest of the panel
5 underway. Thank you very much.

6 So our next panel is truly needs no introduction
7 here, I'm sure.

8 MR. MERGES: Thank you very much. I'll just start
9 right there then.

10 MR. SCHRAG: You will?

11 MR. MERGES: If you want me to.

12 MR. SCHRAG: Oh, no. Our next panelist is that
13 Rob Merges --

14 MR. MERGES: Okay.

15 MR. SCHRAG: -- who is the Wilson, Sonsini,
16 Goodrich and Rosati Professor of Law and an expert on all
17 things related to intellectual property, so...

18 MR. MERGES: Okay. Even when I ask -- oh, there
19 you are. Okay. See now you guys were all congregating back
20 there, and I couldn't use my favorite trick that I use on
21 students when everybody's not paying attention and they're
22 all kind of wandering around. I always sidle up to the
23 microphone, and I say: Now on the final exam... Boom.
24 Instant attention, you know? Anyway. So no test, no exam
25 today.

26 However, I am going to talk a little bit about the
27 marketplace for intellectual property rights, specifically

1 patents, today. I've got two main themes, and here they
2 are: I am going to talk about asset definition and asset
3 legitimacy. And if I have any distinct value added it's
4 probably on that second point, which is really a lot of what
5 I want to talk about. Okay.

6 So on the first topic of asset definition, you
7 know the basic questions you want to ask when you're sort of
8 evaluating a market is what kind of assets are being traded
9 and how do we establish their value. That's what markets
10 are really all about.

11 The market for patents is sort of a complex beast
12 in some ways. And that's because in reality there is sort
13 of a complex relationship between -- you might think of
14 three different levels of economic activity.

15 There is tangible assets. That's sort of the old
16 smokestack and hardware-based aspects of our economy, which
17 are still important.

18 Then there's information, and that's in many ways
19 where the economy is going.

20 And then, thirdly, there are the legal rights
21 themselves. And it's very easy to get level two and level
22 three mixed up. Many people do. But it's important to know
23 that there are information businesses and there are even
24 information industries that don't have very much to do with
25 legal rights. And, more to the point, there are
26 transactions and information which are different from and
27 separate from transactions in the legal rights that cover

1 information.

2 And when you think about the economic consequences
3 of the market for patents, you have to think about the
4 effect of any regulation and the effect of any set of
5 transactions on all three levels. I'll try to explain what
6 I mean by that as I go along.

7 That the markets for these things interact in some
8 interesting ways. That's really what I want to talk about.
9 And what that means for my first topic is that the asset-
10 definition issue here is a little bit complicated. Defining
11 the asset that's being transferred takes a little bit of
12 subtlety. It can take some nuance. And we have to be
13 careful, when we're looking at an individual transaction, to
14 really specify what it is we're talking about.

15 So, for example, here's a book coauthored by my
16 good friend Ashish Arora. It's called *Markets for*
17 *Technology*. And in this book Ashish and his coauthors
18 summarize some research where Ashish sets out some findings
19 to the effect that in many cases what we think of as a
20 patent license actually has two components. There is a
21 know-how, a trade secret, an informational component, on the
22 one hand. And then there is the exchange of formal, legal
23 rights, on the other hand.

24 And he finds that at least in some industries, at
25 least for some transactions, the patent serves as sort of an
26 anchor, or a placeholder, or a conversation-starter. And
27 what really is valuable in the transaction is the

1 information that the patent in some ways acts as an anchor
2 for, or that the patent facilitates transactions in, if that
3 makes sense.

4 And I think that's a good example of the general
5 theme I'm getting at, which is if you think only about
6 markets for legal rights, you will miss the fact that a lot
7 of important economic activity happens under the rubric of a
8 patent license, but it's actually information being
9 transferred. And we know in a lot of patent troll
10 situations that what's bothersome about them is that, in
11 fact, there is no information changing hands; it's strictly
12 a legal relationship. It's strictly an agreement to make a
13 lawsuit go away.

14 And what bothers people fundamentally is that the
15 market for the legal right, which is the right to exclude,
16 is not carrying along with it any underlying or
17 fundamentally valuable information. So to some extent some
18 of the complaints about troll transactions are really
19 complains that -- what we have is a kind of bare-naked legal
20 exchange and there's no valuable information changing hands
21 at the same time. So I'm just trying to show that these
22 markets are fairly complicated and they interact at
23 different levels. Okay.

24 Beyond that, when we think about the market for
25 patents, regardless of whether information is flowing or
26 moving along with them at any given point, we have to think
27 about how regularization is going to happen, how this market

1 is going to evolve and develop. And one of the ways that
2 markets evolve and develop is that the rankings, ratings,
3 and various common denominators, rules of thumb, and other
4 transactional efficiencies, transactionally-efficient
5 earmarks, or transactionally-efficient indicators or
6 facilitators come along. So examples of those would be
7 Moody's ratings or the use of square footage in real estate.

8 These create comparability between assets which
9 are not, on the surface, fundamentally comparable. The idea
10 is that experts and people who look at large volumes of
11 transactions can discern commonalities and can come up with
12 common denominators that allow us to compare that which
13 seems incomparable, at least at the outset.

14 This kind of evolution of rules of thumb, and
15 ratings, and common denominators is just starting in the
16 market for patents. One of the things that I think we have
17 to be careful of is regulating at too early of a stage or in
18 the wrong way such that this market evolution is stunted or
19 redirected in a fundamentally dangerous kind of way. Okay.

20 Another topic that is very relevant when you're
21 talking about market making is transparency. And at least
22 in this first pass through this topic that has taken the
23 form of this question: Should the prices of patent
24 transactions be made public, people sometimes differentiate
25 between licenses and assignments or patent sales. There are
26 cases to be made for a transparency requirement for either
27 or both of those. The obvious benefit is you get greater

1 comparability. There are gains for consumers, buyers of
2 things, when market prices are readily available. I think
3 that's pretty obvious from most commercial market exchanges.

4 That's why if you're in a tourist city and you're
5 walking down the street most of the restaurants, which you
6 don't know from Adam and you'll probably never go to again
7 after that night, will not only put their entrée items on
8 there but probably the prices, too. And if they don't
9 that's sort of telling you something you might want to know,
10 too. But, anyway, you get some comparability that way.

11 On the cost side, people have worried about
12 whether or not a transparency requirement or a reporting
13 requirement is going to affect settlement. We've heard
14 about that today. People have talked a little bit about
15 whether you would be able to regulate the terms of
16 disclosure because IP transactions are so idiosyncratic. So
17 these are kind of the pluses and the minuses, okay.

18 That kind of wraps up what I want to say about
19 asset definition, not that that's all there is to say.
20 There's a huge amount to say. In some ways I come back to
21 the question of the interrelationship between information
22 and IP markets in a minute.

23 But I want to move on to my second topic, which is
24 legitimacy which is something that lurks below the surface
25 in a lot of discussions of the IP marketplace, particularly
26 when people start talking about patent trolls. And I
27 thought rather than letting it lurk in the margins I would

1 sooner bring it front and center in what I wanted to say.

2 So the completely scary thing, obviously, is that,
3 you know, trolls are a major, and scary, and serious threat
4 if you're a manufacturer. That's my *Lord of the Rings'*
5 reference for today. (Referring to the picture on the
6 screen.)

7 MR. KLEY: Is that a manufacturer?

8 MR. MERGES: He makes people scared. So in that
9 sense I suppose in a limited way it's a manufacturer.

10 So the basic point here is that society determines
11 which transactions are legitimate and which are not. Here's
12 the main take-home point on legitimacy. The existence of a
13 market does not by itself confer legitimacy. Okay. I just
14 want to repeat that because I promised that's my take-home
15 point. The existence of a market does not by itself confer
16 legitimacy.

17 That's an implicit thought behind a lot of
18 conversations you hear with respect to trolls, that, well,
19 these are willing buyers; these are willing sellers. What
20 could be wrong? Okay.

21 And my simple point on legitimacy is that that's
22 not enough. You can't stop the conversation at that point
23 unless you're in a group of committed libertarians who think
24 that market exchange is the only value and that voluntary
25 exchange is all that matters. Most people don't agree with
26 that. For the most part society is much more, let's say,
27 discerning. I'll give you some examples of markets where

1 you have willing buyers and willing sellers where social
2 legitimacy is very much not taken for granted.

3 Supply and demand for blackmail is a classic
4 problem in the economics literature because you have a
5 willing buyer and a willing seller, and it's taken people in
6 economics and law in economics a long time of wrestling with
7 it before they finally decided, well, this isn't a good idea
8 to have a market in blackmail, because blackmail is wrong;
9 it's a bad thing.

10 Obviously slavery and various forms of indentured
11 servitude is another example. Another example that comes up
12 which is more in the gray area would be the market for body
13 parts. This is a book called *Black Markets* here.

14 The point is that there is a spectrum of
15 legitimacy and the fact that there's a buyer and a seller
16 and that they are willing to arrive at a market price does
17 not automatically mean that you're on the good side of the
18 dividing line that divides that spectrum. Okay.

19 My simple point for the trolls of the world is
20 they have to be aware of that because the way the legal
21 system works is it will first see whether there is a willing
22 buyer and a willing seller, and then it will say: Gee, is
23 this the kind of transaction we want to promote. That is to
24 say, is this a legitimate asset being bought and sold? The
25 fact that there's a market is not the end of the discussion.
26 In some ways it's just the beginning. Okay. That's the
27 simple point.

1 So how do I bring that back to the topic of asset
2 definition and the relationship between particularly
3 information and patents or IP rights? Well, here's the
4 simple point there. The market for patents should serve to
5 facilitate the production of information or tangible assets
6 and/or it should promote the progress of industry. That's
7 the constitutional standard.

8 To put it really simply, the way we should judge
9 the legitimacy of this market is to ask whether or not the
10 transactions that the market facilitates are serving a goal
11 or a purpose that we think is valuable. We say, "No," in
12 the case of, let's say, markets for drugs or blackmail. I
13 think there are definitely classes of IP transactions that
14 do promote the progress of industry, that do ultimately
15 facilitate innovation.

16 But figuring out the line between pure rent
17 seeking and transactions that might facilitate innovation or
18 that might attract capital formation for future innovation,
19 that's what this whole venture in my mind should be about.

20 So to kind of bring it back to my starting point,
21 the market for patents, I think, if it is in service of, in
22 service to an end that we think is valuable from a social
23 welfare or social benefit point of view, to that extent this
24 is a perfectly good, legitimate market and we ought to think
25 about facilitating it and promoting it.

26 To the extent that the transactions that happen
27 under this rubric are really pure rent seeking and don't do

1 anybody any good, to the extent that these transactions
2 really don't encourage any real innovation, then I think the
3 trolls of the world are going to find themselves
4 increasingly in trouble, and under the gun, and increasingly
5 under a regulatory burden, because that's what we do. If
6 you're a complete on the wrong-side-of-the-line-type
7 transaction, we outlaw you and life gets very difficult.
8 And the way you enforce your rights is you shoot people or
9 you hurt people. That's not an industry you want to be in.

10 If you're on a good side, we say, "Fine," you
11 know, market transfer leading to socially beneficial
12 results. You're fine. If you're in the middle that's also
13 a murky place to be. That's like the market for body parts.
14 We're a little squeamish about it. We tolerate it to some
15 extent. We regulate it. We wring our hands about it. We
16 say various complicated and nuanced things about it.

17 If you're in that kind of a market, obviously we
18 want to set up a set of regulations and incentives that
19 pushes you over on the positive side of the line as much as
20 possible. And I think the reason we want to do that is,
21 again, the transaction isn't serving a socially useful kind
22 of an end and there really is no reason to promote it;
23 there's no reason to encourage it.

24 Just a quick summary of a couple of things that
25 have been said here earlier. I would say that Rosemarie
26 Ziedonis and Bronwyn Hall were talking about some very
27 interesting issues, which I think are whether or not the

1 exit strategy or salvage value of the IP portfolio of the
2 start-up feeds back in any meaningful way into the original
3 funding decision. If it does then, in my terms, the market
4 for salvaged IP ultimately is going to serve some pro-
5 innovation purpose, because it's creating a little more of a
6 positive payoff for the funding entity.

7 If, on the other hand, most of the salvage IP is
8 being bought on the cheap and none of the founders or
9 funders ever see anything from it, then I can't think that
10 it's serving anything but a kind of rent-seeking function.

11 And then I think the interesting question is a
12 dynamic question whether over time the people holding
13 salvage value IP will get more sophisticated and whether
14 they'll drain some of the rents from the middlemen and start
15 to create more of a salvage market themselves.

16 Anyway, these are interesting, dynamic questions.
17 But in my mind it all comes back to this basic point, which
18 is: Are these transactions facilitating innovation, real R
19 and D or not? A little birdie just told me my time is up,
20 so that's it.

21 MR. SCHRAG: We planned that. Thank you very
22 much, Rob. And I think we're actually done with the
23 projector now.

24 Our final presenter this afternoon is another
25 person who in the IP world probably needs no introduction,
26 that is Marshall Phelps. Marshall is currently the
27 Corporate Vice President Fort IP Policy and Strategy at

1 Microsoft, where he has global corporate responsibility for
2 these areas. Prior to that he was Microsoft's Deputy
3 General Counsel for IP. And before joining Microsoft he had
4 a 28-year career at IBM, which included serving as Vice
5 President for Intellectual Property and Licensing. And
6 Marshall also has a relationship as Executive-in-Residence
7 at the Fuqua School of Business at Duke University. And so
8 it's entirely appropriate that he's on the academic panel.

9 DR. PHELPS: I was trying to figure out why I was
10 on the academic panel for the longest time. I'm not going
11 to use a PowerPoint which for somebody from Microsoft is
12 heresy of the highest order, but I thought I'd just take
13 five or six minutes and just give you a couple of quick
14 thoughts about this.

15 I would like to echo some things that we've heard
16 before -- and this could be very dangerous with this bird
17 flying right over my head -- about a different way to think
18 of the markets for intellectual property beyond the way most
19 executives, accountants think about intellectual property
20 and what to do with it.

21 The traditional way that intellectual property is
22 taught is that it creates a negative right. It's the
23 ability to stop somebody from doing something. And my
24 classic story, which some of you have probably heard, is Lou
25 Gerstner arriving at IBM which, give Lou a lot of credit, he
26 saved the company.

27 But in 1992 IBM was down to a hundred days of cash

1 and it was about to go bankrupt. And it would have been the
2 largest bankruptcy -- we since succeeded it greatly, but at
3 the time it was going to be the largest bankruptcy in U.S.
4 history. And Lou arrives from Nabisco. Now what does
5 Nabisco do? It makes crackers and cookies. And Lou had
6 just lost a patent struggle with Procter and Gamble.
7 There's a great book written about this called *The Cookie*
8 *Wars*. And it was over a patent for making soft chocolate
9 chip cookies. And he lost. And so Nabisco was out of the
10 soft chocolate chip cookie business forthwith.

11 And so he arrives at IBM and finds out that
12 there's this guy named Phelps who's out there licensing
13 everything under the sun at IBM. And on his second day
14 calls me up and starts screaming at me, you know, Lou, he
15 doesn't know what to do. He said, "What the hell do you
16 think you're doing? You're out there licensing this stuff
17 when we should be stopping our competitors."

18 Never mind that we had a 1956 consent decree that
19 required us to license this stuff. But, you know, that was
20 not a good example to try to explain to Lou in an irate
21 phone call.

22 So what we did was we took one of these laptops
23 and we pulled off the keyboard and we made little red flags
24 out of toothpicks and we put it on the intellectual property
25 of other people in an IBM-architecture machine, which should
26 be our strongest, as you would think, our strongest
27 platform. And we stopped at 150 flags because we ran out of

1 real estate, not because we couldn't have found other
2 intellectual properties.

3 So the point was, Lou, we have to use the
4 technology of other people in the high-tech ICT industry, if
5 you will, if we're going to be successful going forward.
6 That kind of thinking, by the way, leads you pretty quickly
7 to this kind of a thought about open innovation, if you
8 will, to pick Henry's terminology.

9 And I got thinking about that because most of the
10 licenses we did at IBM in the 10 years that I ran this
11 function were really combinations of trading. They weren't
12 just straight intellectual property in the sense of patents.
13 There were an awful lot of pieces of R and D, of trade
14 secrets that went in those things, and then the patents
15 dragged along as the right to use them.

16 And, by the way, that creates a dynamic when the
17 company on the other side can go to their CEO and their
18 board of directors and say: Well, we're also getting a
19 whole bunch of technology here, folks, that we don't have to
20 pay for. My classic example of this was the biggest deal
21 that I ever did. Back in the mid-1990s IBM invented a way
22 to put copper and aluminum on a chip at the same time.
23 Well, copper is highly corrosive and theretofore you
24 couldn't do that. Well, IBM figured that out. The only
25 problem with it, it costs three to five billion dollars to
26 build a plant to do that. And, of course, IBM was cash-
27 strapped.

1 So the day IBM announced that they also announced
2 that they had two licensees, their two biggest competitors
3 at the time: Motorola and Intel. And basically IBM got a
4 free facility out of those deals. Now the beauty of that --
5 and this is the way you have to think about this -- the
6 beauty of trading intellectual property like that for
7 something is that IBM was, at that point in time, working on
8 the next generation. Intel and Motorola weren't. They were
9 trying to get to square one.

10 So, anyway, my point is at the next turn of the
11 crank, who do you think the first people back to the well
12 were? Intel and Motorola. So it's sort of created a *de*
13 *facto* standard in the chip-making industry for this kind of
14 technology at the time.

15 So this was kind of the discussion I had with Bill
16 Gates back in 2003 about how Microsoft kind of needed to
17 rethink itself on these kind of things and quit being this
18 regional Seattle company thinking it made more money than
19 everybody else in the world, *a fortiori*, they're the
20 smartest and everybody breathing the same exhaust on that
21 one giant campus up there in Redmond, Washington, and start
22 to look outwards.

23 And the way I explained it was that you ought to
24 think about this stuff as a virtuous circle. You spend
25 money on R and D. Out of that becomes intellectual
26 property. You use the intellectual property to either get
27 licensing revenues or build relationships and that feeds

1 back into the R and D model, and you just keep going.

2 In the meantime, you've created a subsequent or
3 subset ecosystem with the intellectual property you've put
4 out there in the open world. That was kind of my homely
5 example of the thing, and I used to draw these charts all
6 the time. Bill bought that. Bill Gates bought that, being
7 one of the smartest people that I've ever met in my life and
8 certainly highly knowledgeable about intellectual property.
9 He thought that was really a pretty good idea.

10 And so we have been working since that time to
11 kind of change Microsoft from being an inwardly-focused,
12 negative-rights company with intellectual property to be an
13 outward-focused, license all your technology. And in
14 December 2003 we came up with a plan of business. So we are
15 now open for business. We will license everything that we
16 have.

17 So we started down that road. We put 50
18 technologies on our website, and we said come and get them.
19 And nothing happened. We learned a very powerful lesson.
20 And that is you just can't throw technology out there and
21 expect it to succeed. If you really want it to succeed you
22 had to build an infrastructure around it. So we set up
23 something called Intellectual Ventures, and that crowd -- IP
24 Ventures, excuse me -- and that crowd --

25 (Laughter.)

26 DR. PHELPS: That's a Freudian slip of some
27 significance.

1 (Laughter.)

2 DR. PHELPS: That crowd, what they do is they will
3 find venture capital. And sometimes it's our own. They
4 will find managers, professional managers, because, believe
5 it or not, propeller heads sometimes aren't the best
6 business managers in the world. They will find
7 technologists to go with the technology. And they will
8 start businesses on the back of that. And I think we've
9 started something like 25, 30 businesses at this point in
10 time around the world. And some have been very successful,
11 especially the one in Ireland for reasons that, you know,
12 Ireland is a terrific IP country, has been for years. And
13 that's why all the writers were living there because their
14 rights got protected. But Ireland has done very well.
15 We've done one in Finland; we've done one in Sweden; we've
16 done three, I think, in China. We've done them all over.
17 We've got a bunch in the United States.

18 So that is a case of making a market for
19 intellectual property rather than have the stuff sitting on
20 the shelf, because I can tell you, even if you spend \$9
21 billion a year on R and D it is not an organized process.
22 It is sloppy. It is, you know, everything you want R and D
23 to do. You don't know what you're going to get out of it
24 when you start down the path and things will diverge.

25 But what I was trying to avoid is what happened at
26 IBM, where we would invent something -- and I was just
27 talking to Henry about this -- reduced instruction set

1 computing. It's called RISC for those of you who are long
2 in the tooth and remember that kind of stuff. It sat on the
3 shelf at IBM rather than compete with the mainframe
4 computers that IBM was building. And, of course, the
5 biggest argument against that was brought by the sales
6 forces who said: No, we want to sell these big mainframes.
7 We are not interested in selling, you know, reduced
8 instruction set computers which are simpler and cheaper. We
9 want to sell these big heavy things. So that's what I was
10 trying to avoid at Microsoft.

11 So I guess there are a couple of quick lessons
12 I'll just give you real quickly. I view IP not just as a
13 negative right, as I said. It certainly is that. And there
14 are times -- and you heard Horacio say we've had three
15 instances where we had to assert that. I should tell you,
16 and I don't -- the reasons we had to assert that was because
17 we found three companies who wouldn't even talk to us. And
18 that's a tough situation to find yourself in. And so that
19 was -- if we could have entered into negotiations none of
20 this would have happened.

21 But I view, in addition to the negative right
22 thing, which everybody on the planet focuses on, you ought
23 to look at intellectual property as a pretty good bridge to
24 collaboration. Now why do I say that? I say that because
25 if you don't have IP rights that are understood by the
26 purveyor of them and the receiver of them, you don't have
27 the necessary scaffolding to build a good, good bridge there

1 between the two sides. So IP rights are really important
2 that everybody understand them, so that if I'm on the
3 receiving end I know what I'm getting and I know what my
4 rights are to use what I'm getting.

5 If I am the giver of those or the seller of those,
6 I know what my rights are and what my ability to enforce
7 them are if something goes wrong and what I can expect on
8 the other end. That's really important in commercial
9 transactions. And I would urge the Commission or anybody
10 else to take that into account, at least the second order
11 effects of what might happen if you try to limit that kind
12 of capability on either side.

13 I wanted to say something that I heard a little
14 bit about today. This is not a trend limited to the IT
15 industry, what I'm talking about here today, even though
16 it's probably most profound in the IT industry, because our
17 products are made up of thousands and thousands of
18 inventions. Windows Vista has 50 some odd million lines of
19 code in it. You might argue there are a few too many. Some
20 have. But there is a lot of invention, a lot of invention
21 that goes in there.

22 And you say, well, that's okay for the IT
23 industry, but it doesn't apply to my industry. Okay.
24 What's your industry? Big pharma. Well, it does apply to
25 big pharma. Big pharma is in deep trouble for the business-
26 model problems that you heard earlier. What are they doing?
27 They're trading IP on the front end. They're running around

1 trying to find small companies that they can buy and do the
2 R and D for them so they can fill up the pipeline, because
3 there aren't just that many more \$1 billion pipelines.

4 So if you look at Eli Lilly, they went and bought
5 a company that was making Cialis. Well, Cialis is that one
6 where you see the man and the woman in the bathtub on the
7 mountaintop, just like home for me. I don't know about you
8 guys. But Eli Lilly had a great marketing engine. Icos,
9 which is the company that made Cialis, had a good R and D
10 engine. And they put two and two together, and the pipeline
11 got a little bit fuller.

12 If you think about the airplane industry just for
13 a minute, think about the 787 that Boeing is building, if
14 they ever do build it. The wings are being made by
15 Mitsubishi heavy industry in Japan. The fuselage is being
16 made by an Italian company. They are assembled in someplace
17 in South Carolina. They are put on a 747 guppy and flown
18 into Everett, Washington for final assembly and test.

19 Now we all have to hope that there is a lot of
20 intellectual property being traded on the front end so that
21 we know that the wings from Mitsubishi and the fuselage in
22 Italy work together pretty well. Otherwise, we're all going
23 to have a very unhappy flying experience.

24 So my only point is about this is this kind of
25 stuff is going on in lots of -- I can give you chapter and
26 verse on this, and I won't bother. But just some results.

27 When I left IBM we had 1826 cross-license

1 agreements around the world. Those are 1826 companies that
2 don't sue each other basically, is what happens. Since we
3 started this in Microsoft we're now up to about 550 cross-
4 license agreements, some with, people would argue, arch
5 enemies, like open-source companies like Novell and things
6 of that nature.

7 So I can just tell you that that is a pattern in
8 the industry that is going on left and right. And so for
9 those who view this intellectual property stuff as building
10 barriers between companies, I would argue the opposite is
11 more likely the case than not. What else did I want to say?
12 Well, I think I've said it all.

13 Just the point is, I do think that IP is this
14 incredible scaffolding that allows all this to work. Does
15 that mean there aren't problems, that we get out of sync,
16 the patent system gets out of whack on occasion and needs to
17 be brought back? Yes, it does. It means we have to do all
18 those things and, you know, eternal vigilance is probably
19 really, really important.

20 So I just wanted to say one thing about the troll
21 problem, whatever. The one thing we are ignoring in this is
22 a lot of these trolls happen to be law firms. And what they
23 do is they go out and they buy these patents. Now I suspect
24 that I'm the number one victim of trolls in the world. It
25 is the deep-pocket theory of justice, and we should never
26 forget that.

27 When you combine that problem with very, very

1 friendly plaintiffs' jurisdictions so -- all but one of our
2 patent-infringement cases are in the Eastern District of
3 Texas, they are in Marshall, Texas. And they are there for
4 a reason. And you can figure out what the reason is without
5 me telling you. But that's kind of the situation. So
6 that's an aspect of this, that we haven't begun to cover, is
7 that do we have the judiciary in this country straightened
8 out? And maybe there is some things that need to be done
9 there as well, because that's a huge problem.

10 I'll just give you one funny story. A
11 Philadelphia plaintiff, a troll, sued a Philadelphia company
12 in Marshall, Texas. Now all the witnesses happened to be in
13 Philadelphia. Those of us who go to law school would say,
14 well, gee, can't you a forum nonconvenience argument here
15 and get the case transferred out? No, the chief judge of
16 that district said, well, we have airplanes here, and
17 airports, and we have barbershops, and restaurants, and why
18 can't they do it here, anyway? And, lo and behold, it's
19 there. Now there is some evidence that that may be moving
20 away a little bit. But I just add that element into this,
21 because this is another part of the problem. And I'll stop
22 there.

23 MR. SCHRAG: Thank you very much, Marshall, and
24 thanks to all the panelists for some very interesting and
25 provocative presentations. And, unfortunately, Henry has to
26 leave us at this moment to go attend to scholarly business
27 and teach a class.

1 So I think that, Marshall, what you were just
2 talking about, this concept of IP as forming a scaffolding
3 tool is, in some sense, resonant with what Rob was talking
4 about in Ashish Arora's book, --

5 MR. MERGES: Right.

6 MR. SCHRAG: -- you know, the IP playing sort of a
7 focal point. And I'm wondering what people's thoughts are
8 about whether that fact that IP plays this role in sort of a
9 broader technology relationship between the firms that are
10 transacting. Does that mean that we approach technology
11 markets differently than we approach markets, you know, for
12 commodities and services where they are arm's-length
13 transactions? Do we think about efficiency differently?
14 You know, are there -- is it important to distinguish
15 between markets in those different kinds of contexts?

16 MR. MERGES: Well, yeah. I'd say definitely yes,
17 for two reasons. First of all, the data that Rosemarie
18 presented and Bronwyn alluded to a little bit, you know,
19 that's data that shows that there are lots of small
20 companies that hold patents. And a lot of that was directed
21 at sort of the final-period problem or the exit-option
22 problem. But when you sort of dig into the details of what
23 Marshall was saying, which is why is it that it's easier to
24 sell an idea, when you have a patent on it? Why does the
25 patent part help to drive contracting, to put it that way?

26 You see that for various reasons. It promotes
27 disclosure and a kind of openness and notice about what you

1 have. So my point is it's not just that there are a lot of
2 small companies with patents, but that patents really help
3 small companies maintain themselves as idea factories.
4 Patents are what allows them to be constituted as
5 independent companies so that they don't get absorbed into
6 bigger companies. It makes it easier for them to do what
7 they do. You know, that's the first point.

8 And the second point is when you sort of think of
9 that line between beneficial and detrimental IP
10 transactions, you know a small company that plows the
11 royalties back into the next generation R and D is pretty
12 much the paradigm of what we're hoping to happen with the
13 patent system. Whereas, a law firm that buys up a patent in
14 bankruptcy and that simply uses whatever settlement to, you
15 know, distribute to the partners who bring the cases in
16 Texas, none of that is ever going to find its way into R and
17 D. I mean law firms don't do research and development.
18 They do a lot of things, but they don't do that.

19 So, you know, I would just point out that, you
20 know, there are small firms and then there are small firms
21 and there are IP transactions and then there are IP
22 transactions. And what we're about here is just beginning
23 to get a sense of some parameters about how to divide the
24 wheat from the chaff and maybe how to encourage some of the
25 chaff to kind of migrate slowly over to the wheat side, the
26 good side.

27 DR. PHELPS: Good. I would argue the eBay thing

1 has probably been somewhat helpful here. But let me just
2 explain to you how the other element -- how this works
3 against a complicated product. Let's just take my Vista
4 thing again.

5 Plaintiffs' lawyers will stand up in front of the
6 jury and say: Ladies and gentlemen of the jury, we're just
7 asking for 25 cents. That's all we're asking. Microsoft
8 sells a copy of this thing for 60 bucks, 70 bucks, whatever
9 it is. What difference can 25 cents make to Microsoft?

10 Well, that makes a lot of sense, except when you
11 multiply it by a couple of billion, which are the number of
12 copies of Windows that have been out there over a period of
13 time. And that's how you get these five, six hundred
14 million, which we've had a bunch of these, judgments,
15 million-dollar judgments against the company.

16 Now Apple is starting to find this problem, too,
17 because now they're after the iPhone and the iPods and
18 what's in those things that they can multiply by -- it's not
19 the amount of money that you're seeking in damages; if the
20 damn thing you multiply it by that is the huge problem here.
21 So you add all these things up together and you see where
22 the terror is in the system.

23 MR. SCHRAG: I should say that when I put out a
24 question if anyone wants to -- you can indicate it just by
25 raising your flag.

26 DR. PHELPS: Oh, these -- These guys?

27 MS. MICHEL: Rob doesn't have --

1 MR. SCHRAG: Yeah, Rob, your flag has migrated
2 behind the laptop.

3 And, Rosemarie, if you're still on the line and
4 want to interrupt us --

5 DR. ZIEDONIS: Could I contribute something before
6 you move on?

7 MR. SCHRAG: I beg your pardon?

8 DR. ZIEDONIS: Could I contribute something before
9 you move on?

10 MR. SCHRAG: Surely, please.

11 DR. ZIEDONIS: I would think that that last --

12 MR. SCHRAG: Yeah, just feel free to jump in when
13 you want.

14 DR. ZIEDONIS: -- that that last discussion
15 between Rob and I assume that that was Marshall --

16 MR. SCHRAG: Yes.

17 DR. ZIEDONIS: -- speaking last, I think that that
18 illustrates a fundamentally important point that Rob, I
19 think, really did a nice job of discussing, which is we have
20 two, at least two, very, very different types of
21 transactions on these markets. You know, one we can
22 characterize as more that collaborative model where we need
23 that scaffolding to, you know, get as the example that
24 Marshall pointed out, the fuselage to match with the wings
25 and et cetera, et cetera. And clearly that is vital toward
26 getting new products on the market.

27 Now, on the other hand, we also have a fair

1 number, I would argue, of the troublesome, pure rent-seeking
2 type of transactions. And I think, you know, when we talk
3 about these markets for patents and whether they need to be
4 promoted, or facilitated, or encouraged, I think that
5 discussing that, keeping those types of transactions
6 separate and discussing them separately is going to be very
7 important.

8 I guess the only other point I wanted to make is
9 that the study that Bronwyn and I had done on the
10 semiconductor industry, we were looking back farther in time
11 than the numbers that I reported and were looking at entry
12 into the semiconductor industry through the early '80s until
13 the mid-'90s. And our main question was whether that
14 strengthening of patent rights associated with the Federal
15 Circuit Courts' formation in the early to mid-1980s had an
16 effect on the industry. And two points that came out of our
17 study I think resonate directly with this discussion.

18 One is that we did document an unexpected rise in
19 entry by specialized design companies, much in line with
20 this kind of specialization in the industry and this
21 furthering of these kinds of vertical transactions between
22 these design companies and then selling off -- you know,
23 relying on outsource production from manufacturers.

24 So that, I think, was a very favorable view of how
25 in that case kind of this broad strengthening of patent
26 rights may actually facilitate the emergence of these more
27 technology-specialized companies. At the same time it was

1 clear that the big companies, those that aren't just big but
2 are trying to move forward in much the way that Marshall was
3 characterizing. Complicated areas need inputs from all
4 kinds of different patent owners, but they were highly
5 concerned about rent-seeking types of transactions.

6 So I think that in some ways, even though our
7 study was -- you know, it was published many years ago, 2001
8 -- about a specific industry, I think that these kinds of
9 mixed results that we showed about patenting just in
10 semiconductors is echoed in this broader discussion.
11 Anyway, that was the main point that I wanted to put on the
12 table.

13 MR. SCHRAG: Thanks. When a large corporation in
14 a situation like that is worried about rent-seeking, is that
15 an issue when they are initially screening people who are
16 approaching them for technology deals? I don't know,
17 Rosemarie, if that's something that you dealt with in your
18 research, but Marshall may also have thoughts on it.

19 DR. ZIEDONIS: Actually I would appreciate asking
20 Marshall that in terms of how do you decide how many
21 resources to put towards patent clearance on the front end
22 and how effective is that as a form of quote/unquote
23 insurance, if you will, against these types of disputes.

24 DR. PHELPS: I would argue it's pretty
25 ineffective. Microsoft right now has 55,000 patents you
26 either sitting in a -- pending in the patent office around
27 the world or issued. Go ahead and try to do clearances on

1 that. It's just huge. You can't know everything. Many of
2 the people who are -- use the term -- trolls, or
3 nonproducing entities, or whatever you want to call them
4 aren't exactly forthcoming until they kind of see where
5 things are going, and then they can come and see you and
6 say: Gee, sorry to hear you shipped 500 million copies of
7 that.

8 So you don't necessarily find this stuff on the
9 front end. Now I can search against Intel or the major
10 Japanese companies. I can do that kind of work, and we do.
11 We do. But it's the entity that has one patent sitting
12 there somewhere that may or may not be relevant. And, oh,
13 by the way, it may not read exactly on where we are, but --
14 and so the lawyers often want to say, well, you know, we
15 don't infringe that thing. Well, you want to take your
16 chances on that in front of a jury of retired Postal workers
17 in Chicago, Illinois. I mean that's what you're facing.
18 And they can confuse everybody with the technology behind
19 these claims, and all of that kind of thing. So it's a huge
20 problem.

21 MR. SCHRAG: Marshall, I don't know if you have a
22 perspective on this, but is it your view, or anyone else on
23 the panel, that this is a bigger issue, the clearance issue,
24 in the IT sector, or does it apply -- Rosemarie talked about
25 medical devices and --

26 DR. PHELPS: Well, it's much harder in my industry
27 because the sheer numbers of or pieces of intellectual

1 property that are in a machine. If I am in the pharma
2 industry or the chemical industry, just to take two other
3 high-tech things, I have a much closer relationship between
4 the intellectual property and the ultimate product. Often
5 one-to-one. I've invented a molecule, and that molecule
6 becomes a blue pill, or a red pill, or something like that.
7 But, you know, I've got 10,000 red pills in here. So it's a
8 much harder problem in, I think, the telecom industry or the
9 IT industry.

10 MR. SCHRAG: Yes, Bronwyn.

11 DR. HALL: Just a footnote on that. It's not just
12 the red pill problem -- I mean, you know, it's not just the
13 one patent per product or the three patents per product and
14 the, you know, hundreds of patents in my laptop, thousands
15 of patents. I liked the red flags. That was good.

16 But it's also that those three patents are better
17 defined, especially in the software area. I mean you have a
18 better idea of what exactly they cover, particularly if
19 you're using the old model of one molecule. I mean there
20 it's -- you know, that's wonderful. In chemistry, the
21 periodic table did a lot for us.

22 But in software, I mean, you know, -- first of
23 all, the language changes depending on the period the
24 patent's written. The language is sometimes tailored to get
25 it into a class so it won't, you know, -- and then there's
26 the problem of: Is it hardware or is it software? Well,
27 most of these inventions you could do them either way, so

1 then the language, you know, gets tailored to whether to
2 making it hardware or making it software, depending on
3 whether you're in Europe or, you know, whatever.

4 So I mean it's also the fuzzy boundaries, I think,
5 you know, which -- you know, it's not news to us, but this
6 is something that is worth reemphasizing. The fuzzy
7 boundaries on the patents are also -- the problem is worse
8 in parts of ICT -- not all of ICT necessarily, but in parts
9 of ICT than in the pharma area.

10 MR. SCHRAG: Is that an insolvable problem, or are
11 there changes that could be made?

12 DR. PHELPS: This does lead you to some of these
13 giant policy conflicts that you see in patent reform and
14 whatever. If my whole business depends on that red pill
15 surviving and not being copied, I am going to fight for as
16 much terror as I can get into the system. I truly am,
17 because my whole business is at risk if I lose that. Right.
18 And I'm happy to have a Marshall, Texas sitting there. And
19 I'm really happy that, you know, I can go for injunctive
20 relief, and all of that kind of stuff.

21 But, boy, if I'm in the ICT world, I am not so
22 happy. And that's why you see this giant battle on patent
23 reform that goes on as we ask the government to choose among
24 its children. And that is a really hard thing for the
25 government to do.

26 MR. MERGES: Yeah, I would say that, Bronwyn, your
27 point is very well taken. And I think we have -- there are

1 some tools that we have to rein in the fuzziness with which
2 -- particularly software patents, you know, that they are
3 allowed to have, I think.

4 You know, we've gotten a long way away from a very
5 kind of rigorous requirement that the claims be really
6 proportionate to or commensurate with what you've disclosed.
7 And very liberal amendment practice allows you to do what I
8 call misappropriation by amendment. You know you wait till
9 somebody does something, and then you amend your claims to
10 cover it. That's the opposite of what patent law is
11 obviously supposed to be about.

12 I think that the courts probably could use a
13 little push in that direction. And I'm going to focus on
14 the courts rather than Congress, because I don't think
15 fixing an enablement doctrine is the kind of thing that
16 patent reform can do, even if we ever get patent reform.
17 But I think it would help for the courts to be aware of how
18 the lack of notice, when patents are issued, plays into this
19 whole process.

20 One of the critiques, you know, of patents in the
21 information technology field is that you can't tell what
22 they cover. And I don't think that that's -- there may
23 always be some fuzziness, but I think we can do better than
24 we're doing.

25 The other point that came up -- I forget who
26 raised it -- is a very good point. And it addresses
27 Marshall's argument that many times it's the patents that

1 have been sitting around for a long time, while the industry
2 grows up, that cause the most problems.

3 And somebody raised the issue of renewal fees.
4 And I think we've done -- I think it might have been Hank --
5 and I think we've done very little with that as a policy
6 tool, but I think as a way to weed out patents that are
7 really in a latent kind of a state, it's an underdeveloped
8 tool. The trick is, the dangerous thing is, the downside is
9 that small inventors and small companies will tell you it
10 can take a long time to bring capital and to bring interest
11 to their technologies.

12 So if you have a very aggressive renewal schedule
13 that does not permit any kind of a wiggle room for a
14 microentity, for somebody who really is an-independent
15 inventor, you're going to get all kinds of resistance just
16 on a political economy front, and you're also going to run
17 into problems substantively because you may be weeding out
18 some very important small guys by requiring them to renew
19 before the market has, you know, really been able to
20 respond, and interpret, and react to what it is they've
21 created.

22 So it's a really -- it's a very promising policy
23 instrument, but it's a lever that would require a lot of
24 finesse to get it right, is my sense.

25 MS. MICHEL: But, Rob, could you just describe
26 what you mean by using the renewal fees as a policy
27 instrument?

1 MR. MERGES: Right.

2 MS. MICHEL: Are you talking about raising the
3 fees --

4 MR. MERGES: Yeah.

5 MS. MICHEL: -- we talk --more often? They must
6 come due?

7 MR. MERGES: We've done very little with it. I
8 mean, you know, there are all kinds of ideas you can think
9 of along these lines. We have a very, you know, rough-and-
10 ready approach now. We have certain fees so far in, and
11 then they go up, and then they go up. But, you know, ideas
12 like prepaying for the whole term if you think you've got a
13 winner, prepaying at a discount, or putting it off if you're
14 a little guy and saying: We're going to kind of, you know,
15 get an option to renew at a lower price. And if we raise
16 the money later, we'll pay the back renewal fees.

17 We haven't done anything creative with renewal
18 fees. For the big corporate entity that just does it as a
19 matter of course, raising the fees would probably have the
20 desired effect. It would cause them to weed out the weak
21 stuff. But you can create a more subtle tool that doesn't
22 capture or doesn't end up harming the little guy if you are
23 creative about it, you know, allow him to put it off, allow
24 prepayment at a discount. There's various -- I mean we just
25 haven't done anything with that mechanism. Nothing
26 creative, anyway.

27 DR. PHELPS: Which, by the way, is one of the

1 reasons that patent reform never goes anywhere is because
2 the little inventors are scared to death of these kinds of
3 things because they kind of have a back seat in this debate.
4 So when you add the small inventors to the black helicopter
5 crowd who think were trying to undermine the competitiveness
6 of the United States -- a bunch of people in Orange County -
7 - which is true, by the way. I'm not kidding about this.
8 It's what derailed patent reform back in 1992. It was a
9 strange combination of Phyllis Schlafly and Ralph Nader.

10 But we've got to come up with an answer here --

11 DR. HALL: And the finance economists.

12 DR. PHELPS: Yeah. We've got to come up with
13 something here that maybe we have a dual system. Maybe if
14 you're small enough, you know, you don't pay the same fees
15 as everybody else. And we may have to do this so we can --

16 MR. SPEAKER: That's the right -- the right track.

17 DR. HALL: But we already do.

18 DR. PHELPS: Oh, but maybe -- what I am hearing
19 here is we need to do more of that.

20 DR. HALL: Yeah.

21 MR. MERGES: There are more sophisticated --

22 DR. PHELPS: There are more sophisticated ways to
23 do that. And maybe we have to do something that varies by
24 industry a little bit, too. I don't know that answer.
25 Maybe that's how you solve the pharma thing versus the ICT
26 industry. Maybe you have slightly different systems. I'm
27 not sure all that's bad. Although at some point in time you

1 may end up with such a multiplicity you don't know. And the
2 other problem with what I just said, if I thought about it,
3 is the computer industry and the pharma industries are
4 getting very close together, because almost all drug
5 research now is done on computers. So we have to be
6 somewhat careful here of what beast we give birth to.

7 MR. SCHRAG: Bronwyn, did you want to add to that
8 something?

9 DR. HALL: Yeah, I wanted to -- I mean one of the
10 slides I didn't show was the slide on renewal fees, because
11 I agreed with Hank and with Rob that very much that --
12 there's even -- you know, there's an old economic paper, a
13 theory paper, by Mark Schankerman, with a coauthor,
14 Francesca Cornelli, which basically shows that if you have
15 uncertainty over the value of the patent which, of course,
16 you do, which gets resolved. You know, it gets revealed as
17 time goes by at different rates that renewal fees can be a
18 very good way to basically weed out the junk, because
19 initially you don't know often. In fact, the earlier work
20 by Earl Packis (phonetic) sort of shows that you get most of
21 the information in the first five years or so, you know, of
22 the patent life. But, of course, this could have changed
23 since he did the work.

24 When I talk to my friends in Europe one of the
25 features -- there is a good feature of our system, and the
26 good feature is the lower prices for microentities. They
27 don't -- this is a problem for them, because they have

1 higher prices for patents, you know, overall, especially
2 because of the translation fees. And they also perceive
3 themselves as having a problem with new entrants, and start-
4 ups, and so forth, in the high-technology area. And they've
5 resisted having the multiple -- you know, having two tiers.

6 But it seems once you have two tiers, having two
7 tiers of renewal fees and escalating the renewal fees to get
8 the junk out the system -- and not just the junk, but also
9 this stuff you know we had with this -- after Dot.Com we
10 have some patents that came back and bit people that were
11 interpreted as -- you know, that weren't actually about the
12 internet but were interpreted as reading on inventions in
13 the internet. And it would get rid of that stuff, too,
14 hopefully, you know, the stuff that comes back to bite you
15 10 years later when somebody reinterprets what it was they
16 actually said. You know, if the patent's vague enough you
17 can try to do that.

18 So I'm also kind of in favor of this renewal fee
19 strategy, but there is a downside, which is that what you've
20 just done is create a system -- if you tilt towards renewal
21 fees, now you've created a system where there is this huge
22 incentive to go to the Patent Office and get a patent,
23 right, and make them do a lot of work for something that
24 later on you're going to say, oh, after three or four years
25 I'm not interested in it anymore.

26 Now that has the good side is that puts it in the
27 public domain, which is a good thing, right? So now you've

1 put information in the public domain, but you've raised
2 Patent Office costs, because the money that -- where the
3 Patent Office is doing most of its work is in the
4 application-to-grant phase, right?

5 So if you've tilted towards making the weeding-out
6 come at renewal, you know, you've got a problem. So then,
7 you know, people come up with these ideas of deferred
8 examination, which is another way of trying to incent the
9 same thing.

10 DR. PHELPS: But why couldn't you do both?

11 DR. HALL: You could.

12 DR. PHELPS: I mean it seems to me --

13 DR. HALL: Yeah.

14 DR. PHELPS: -- the renewal thing is kind of easy
15 answer at one level. But I would still put the burden on
16 the Patent Office on the front end so that we're still
17 getting quality patents out of there.

18 DR. HALL: Yeah. My worry is that there is a
19 limit to the amount of resources you can devote to the
20 Patent Office.

21 DR. PHELPS: I agree. I agree.

22 DR. HALL: I mean, we are at -- you know, we know
23 we are there --

24 DR. PHELPS: Yeah.

25 DR. HALL: -- and, you know, in the limit -- as I
26 said -- I've always said this is a self-limiting process,
27 because eventually the Patent Office employs all the

1 scientists and engineers in the economy, at which point
2 people stop inventing, so it's, you know -- you can't go on
3 forever.

4 DR. PHELPS: Good point.

5 MR. SCHRAG: I would be interested to get people's
6 reactions to some of the issues that were raised on things
7 that might be valuable for having a well-functioning market
8 for intellectual property.

9 And, Bronwyn, that you talked a little bit about,
10 you know, the questions of transparency, disclosure data.

11 And, Marshall, you may have a perspective on some
12 of those issues, as well. So I'd be curious to hear your
13 perspective as somebody who's operated in the industry, you
14 know, what is the impact of increasing disclosure job what
15 would be the impact, in your view?

16 DR. PHELPS: I think it's really hard, this push
17 for transparency. And I'll just give you a couple of
18 reasons.

19 One is if I have IP that I license to one person,
20 not an exclusive license, let's just say. The next person
21 who wants it, it might not be worth the same to that person.
22 It might be worth more. And so a price that I established
23 in one case may not be the same price in another case,
24 because the needs are different every time. That's part of
25 the problem you face here. It's not like we're selling, you
26 know, a pound of apples where everybody kind of knows what
27 the parameters of a pound of apples are.

1 I go back to that chip model I made. The fact
2 that it was worse than awful lot of money to Intel doesn't
3 mean for another little chip company it's going to be worth
4 that kind of money for a couple of reasons. And one is not
5 the least of which is they couldn't pay it if they wanted
6 to. So you have to be careful of that.

7 The other thing you have to be careful about, and
8 this I would like to just kind of keep in this room, is most
9 of these negotiations take place under confidentiality
10 agreements between the companies for competitive reasons.
11 Company A does not want its competitors to know that it has
12 just licensed something, technology X, from Microsoft and
13 that they're going to go into that business. So you sign
14 these things up under a confidentiality agreement.

15 There is a third problem, and this is the big one.
16 About two years ago the Internal Revenue Service decided it
17 was going to take a look at these licensing deals the
18 companies do between themselves, try to value them, and tax
19 them. What do you think the reaction to that was in
20 corporate America? It wasn't good, let's put it that way.
21 And it died before it ever got anywhere because companies
22 were damned if they were going to have the IRS in there
23 looking at licensing deals, trying to make the very same
24 judgments we're all sitting here saying: Boy, is this hard.

25 DR. HALL: Could you clarify that a bit? I mean a
26 licensing deal involves -- you receive money; it's in your
27 bank account. You know, it's in your profits or not, as the

1 case may be. So what are they looking for?

2 DR. PHELPS: Well, it's not necessarily that you
3 receive money.

4 DR. HALL: So it's cross-licensing?

5 DR. PHELPS: It's cross-licensing.

6 DR. HALL: Oh, okay. So it's cross-licensing, --

7 DR. PHELPS: Yes.

8 DR. HALL: -- which is really tit-for-tat?

9 DR. PHELPS: No, no, no, no. No, no, no. Now
10 most cross-license agreements have another component called
11 a balancing payment that goes on.

12 DR. HALL: Yeah. But, again, that shows up in
13 your bank account. It's --

14 DR. PHELPS: That's true.

15 DR. HALL: Yeah. I mean I don't see what the IRS
16 is worried about. I mean, you know, it's --

17 DR. PHELPS: No, they -- they're -- look, it's --

18 DR. HALL: Quite frankly, I don't see anything --
19 I can -- income.

20 DR. PHELPS: It's any old port in a storm. They
21 were just looking for another -- you know, another way to,
22 you know, make additional money, they thought. But most
23 companies did not want to disclose that competitive
24 information to the IRS --

25 DR. HALL: Well, I don't -- I don't see why they
26 should. It might be an auditing question. But -- but I
27 mean but the money is income.

1 DR. PHELPS: Well, that's what every- --

2 DR. HALL: You know.

3 DR. PHELPS: -- that's what everybody argued. But
4 they were looking at --

5 DR. HALL: Yeah.

6 DR. PHELPS: -- what's the hidden value here? And
7 how do we tax that.

8 DR. HALL: On the idea that you're getting a free
9 gift?

10 DR. PHELPS: I don't know what the IRS --

11 DR. HALL: I mean -- no. I mean, it just doesn't
12 make sense to me. But, you know, I'm a dummy economist.

13 DR. PHELPS: Well, I'm happy to hear that.

14 DR. HALL: No, I mean, I -- you know, the IRS is a
15 clever place, but, you know, I --

16 DR. PHELPS: It didn't make sense to --

17 DR. HALL: -- it doesn't make any sense.

18 DR. PHELPS: -- us either. But I can just tell
19 you that the IRS is looking at this. I don't know if they
20 still are, but --

21 DR. HALL: No.

22 DR. PHELPS: -- they were two years ago.

23 DR. HALL: They're -- they only issue I can see is
24 the transnational -- the transnational transactions, there
25 there's an issue, because you -- you do -- because of the
26 different tax regimes.

27 DR. PHELPS: Um-hum. Right.

1 DR. HALL: Right? So you can see an issue there.
2 But, you know, --

3 DR. PHELPS: You're talking about --

4 DR. HALL: -- within the U.S., I don't see an
5 issue.

6 DR. PHELPS: You mean for transfer pricing issues
7 or --

8 DR. HALL: Yeah, trans- -- there's a transfer
9 pricing issue that -- that is serious, yeah.

10 MR. SCHRAG: And Bronwyn, I -- I get the
11 impression that you -- you're relatively in favor of more
12 disclosure. And what benefits do you see flowing from that
13 in --

14 DR. HALL: Oh, well, there are two benefits. I
15 mean, one is, of course, the selfish benefit, which is that
16 people who study this area feel like they need to --

17 MR. SCHRAG: More data points.

18 DR. HALL: Yeah, we feel like we need to answer
19 some questions. I mean, it's -- you know, I should say I
20 study this area. I'm mostly unpaid studying this area, so
21 it's not as if it's that selfish. But -- but it's -- we
22 study this area, we'd like to, you know, we'd like to
23 provide answers to some questions. And to do that you
24 really do need values for a random sample rather than for a
25 selected sample --

26 MR. SCHRAG: Right.

27 DR. HALL: -- that decided to tell you what the

1 value was.

2 But the second reason is -- which has been argued
3 by, among other people, Nathan Myhrvold, whom you may
4 remember, is this idea that the markets will develop if we
5 have better information, in general, about the prices of
6 these transactions.

7 Now the heterogeneity is clearly an issue.

8 MR. SCHRAG: Yeah.

9 DR. HALL: The purer -- the pure size
10 heterogeneity, okay? That's solvable about royalty rate.
11 You rate -- I mean, you can -- if you cracked your royalty
12 rate right then, the fact that this guy's selling 10 and
13 this guy's selling 5 million, you know, you shouldn't be
14 worried. But it's obviously much more subtle than that. It
15 has to do with this -- the things that Rob talked about,
16 which is the know-how, you know, the know-how you need for
17 this, the market they have available is different from the
18 know-how there, so the transactions are heterogeneous.

19 What happens if you make rules like this is firms
20 learn to adapt --

21 MR. SCHRAG: Sure.

22 DR. HALL: -- but it -- of course, this is costly,
23 right? I mean they learn to figure out ways to tell the guy
24 who comes in and says: "Wait a minute. You charged that
25 guy this and I want that price," you know? And ways in
26 which to make it clear that this is a different thing you're
27 selling to them than you're selling to the other guy.

1 Now I thought Hank's suggestion on the settlements
2 was very useful. And the same thing may apply to licensing
3 agreements, okay? Because I think the deal killer isn't the
4 heterogeneity, I think it's the negotiation -- it's the
5 confidentiality restriction. I think that's a real issue
6 which is in this -- in a sector like this, the secrecy when
7 a firm is changing its strategy, you know, as to what the --
8 not Microsoft, but -- I mean, not the guy licensing but, you
9 know, the --

10 DR. PHELPS: Both ways.

11 DR. HALL: Both -- maybe, but -- well, but, maybe
12 both ways. But, like, Microsoft is sort of under a -- I
13 mean, under a microscope anyway, so it's hard to keep too
14 much secret.

15 DR. PHELPS: Well, not for -- not for licensing.

16 DR. HALL: Yeah. But, no, I was thinking more of
17 suppose you license a technology to a firm that has decided
18 to develop a product that the notion that they might want to
19 keep that secret for a while --

20 DR. PHELPS: Um-hum.

21 DR. HALL: -- that seems to me a legitimate
22 business reason. And so you might want to think also about
23 delays in -- shorter delays, possibly, in revealing -- in
24 other words, the -- having a lag in the revealing of the
25 transaction, it seems to me, solves a lot of problems. And
26 the settlements -- I was quite worried about the settlements
27 until I heard Hank's suggestion, and I think that's actually

1 quite useful.

2 DR. PHELPS: Um-hum.

3 DR. HALL: You know, waiting five years and then
4 opening up the records. It's tricky because, of course, --

5 DR. PHELPS: Of course, if it's material --

6 DR. HALL: -- people will lobby for control over
7 the opening.

8 DR. PHELPS: If it's material to one of the
9 companies, it ends up --

10 DR. HALL: It ends up in the 10k, and that would
11 --

12 DR. PHELPS: -- in the -- in your database
13 somewhere, but you can move to redact the dollar figures in
14 that.

15 DR. HALL: Exactly. How do you think we were
16 worried about this? It's because where we get our data from
17 is 10ks.

18 DR. PHELPS: Sure, I know.

19 DR. HALL: Yeah, yeah. And so -- yeah. Because
20 that's the one place you can find out a lot of things.
21 Licensing contracts, I mean, Deepak Kagdes (phonetic) here,
22 he's been collecting licensing contracts from 10ks.

23 DR. PHELPS: Um-hum.

24 DR. HALL: I mean, you know, information on
25 licensing contracts.

26 From -- so there's -- you know, it's the redaction
27 that's killing us --

1 DR. PHELPS: Yeah.

2 DR. HALL: -- and, you know, a delay would help.

3 MR. SCHRAG: So -- well, would you argue that
4 having a limited amount of information about licensing
5 contracts -- is that sufficient, or is that necessary to
6 have the -- you know, the full suite of --

7 DR. HALL: I think this is very tricky to answer
8 because the contracts are complex.

9 MR. SCHRAG: Um-hum.

10 DR. HALL: Right? I mean, you know, we'd like to
11 know what the up-front fee is and what the milestone -- you
12 know, what -- you know, what the royalty rates are, right?
13 But, of course, then the contracts get rewritten the be
14 something very complex and so we haven't asked for enough.

15 DR. PHELPS: Let's -- well, yeah. Let's just pick
16 on that for a second.

17 DR. HALL: Yeah. Yeah.

18 DR. PHELPS: Because, the -- most of the
19 cross-license agreements go like this: It isn't that you
20 have a stack of paper and a ruler and you measure how deep
21 the stack is and you figure out what the differential is in
22 inches and that's worth x dollars. What it's more like is I
23 walk in there with my coal pile and you walk in there with
24 your coal pile and you sit those two piles down and you say,
25 "Aww, my coal pile is bigger than yours, therefore you own
26 me money." And you say, "Ah-Ha. But in" -- "I've got
27 another form of carbon inside my coal pile and I've got the

1 Hope Diamond in there" --

2 DR. HALL: Yeah.

3 DR. PHELPS: -- "and it's worth x to you."

4 And that may be different in ever particular case.

5 DR. HALL: Yeah, I'm afraid I misled -- I'm being
6 -- I -- we're talking at cross purposes here. Because I was
7 not talking about cross-license agreements, --

8 DR. PHELPS: Right.

9 DR. HALL: -- which I view as stand-still, you
10 know, in the mutually assured destruction game. And that's
11 a different game.

12 DR. PHELPS: Um-hum.

13 DR. HALL: We know that game is there, it hasn't
14 -- it isn't the thing that's causing the trouble. It's
15 raising transactions costs for firms, --

16 DR. PHELPS: Um-hum.

17 DR. HALL: -- but it's not the thing that we're
18 most concerned about, which is the nonpracticing entity
19 activity.

20 DR. PHELPS: It's still not, right.

21 DR. HALL: I was talking about one-way
22 transactions, okay, first.

23 DR. PHELPS: Um-hum.

24 DR. HALL: Right? The cross-licensing thing which
25 the semiconductor guys do too. I mean, the first thing that
26 I found highly amusing about that game was that, you know,
27 until I talked to the semiconductor firms about this

1 mutually assured destruction strategy, you know, people had
2 always told me, "Oh, you're just crazy because you're
3 counting patents to measure some form of innovation." I
4 says, "Well, yeah, but the semiconductor firms do it too.
5 You know? Because it's just too much trouble to do anything
6 else."

7 DR. PHELPS: Right.

8 DR. HALL: But you do -- you do -- I assume you do
9 the selecting patents.

10 DR. PHELPS: Of course.

11 DR. HALL: You know, "There are must good ones."

12 DR. PHELPS: Of course.

13 DR. HALL: Yeah. Yeah. Because that's what it's
14 evolved to, I mean, at this point.

15 DR. PHELPS: Sure. Um-hum. Okay.

16 MS. MICHEL: Would transparency in the market help
17 if the only data that were required to run is sales of
18 patents rather than the licensing of them, and would
19 companies be as hesitant to divulge that kind of information
20 as they might be about licensing?

21 DR. PHELPS: If the sales of patents are so -- are
22 so irrelevant to an IBM or a Microsoft or a General Electric
23 that I don't see what -- what data you get out of that that
24 would make any sense.

25 MS. MICHEL: Okay.

26 DR. HALL: The -- one thing that we can comment on
27 here is something -- I think Hank -- I thought it was Hank

1 or Rob that alluded to this issue. The USPTO, on its
2 website, has an enormous amount of information --

3 DR. PHELPS: Yup.

4 DR. HALL: -- which it puts there in an
5 impossible-to-use way. In this -- in the following sense:
6 If you want to know if a patent has been re-examined or,
7 worse yet, if you want to know if a patent has been
8 invalidated, you might think that looking at the patent
9 bibliographic data would tell you that. But, of course it
10 doesn't. What you have to do is go to pairs --

11 MS. MICHEL: Um-hum.

12 DR. HALL: Okay? And dig -- dig down through all
13 the re-exam activity to find the certificate, okay? And see
14 which claims got invalidated.

15 Well, you'd think the natural thing would be to
16 have that -- if it's going to be a good search tool, right?
17 The USPTO database, it should be in the patent record.

18 The same thing applies to the reassignment
19 information, okay? That alone would be a big help to people
20 searching, because right now, yes, the reassignment
21 information is published in the gazette, you know, and so
22 forth, and buried somewhere on the website. But it's not in
23 the patent record.

24 And so there's a list of things like this which
25 are actually available -- existing available data which are
26 -- which the USPTO could do something about at some
27 programming cost.

1 MS. MICHEL: Um-hum.

2 DR. HALL: I suspect it's not the programming cost
3 that's stopping them, it's that firms don't want it.

4 MS. MICHEL: Well, --

5 MR. SCHRAG: Well, we have --

6 MS. MICHEL: If Rosemarie maybe --

7 MR. SCHRAG: What's that?

8 MS. MICHEL: Is Rosemarie there?

9 MR. SCHRAG: What's that?

10 Rosemarie, are you still there?

11 DR. ZIEDONIS: Yes, I am.

12 MS. MICHEL: Okay. Ask her if she has anything.

13 MR. SCHRAG: Rosemarie, did you have any thoughts
14 you wanted to contribute on this area, or...

15 DR. ZIEDONIS: The only thing I wanted to at least
16 acknowledge is, you know, I don't know if this book came up
17 in an earlier reference, but Jim Besson and Mike Moyer,
18 their recent book on patent failure, I think, has, you know,
19 reasonable arguments in favor of this kind -- we need more
20 transparency and greater notice. So just to be on the
21 record, I think that their book is useful in informing this
22 issue.

23 MR. SCHRAG: Yeah. They actually did testify in
24 earlier sessions of the conference.

25 Well, we have gone over our time and we have
26 several panelists who have been very busy and had to move on
27 to their other obligations. So I think that unless Marshal

1 or Bronwyn would like to make any final comments --

2 DR. PHELPS: No, nothing.

3 DR. HALL: No, that's enough.

4 MR. SCHRAG: -- we will -- we will adjourn for the
5 evening. And we will be continuing tomorrow with panels on
6 damages and remedies. And I should also mention that we are
7 accepting public comments and we will be accepting them
8 until May 15th. You can find a link for that on our FTC.gov
9 website. And we certainly would appreciate any
10 contributions you want to share.

11 Thank you very much.

12 (Whereupon, the hearing was recessed at 4:40 p.m.,
13 to continue May 5, 2009 at 9:00 a.m.)

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CERTIFICATION OF REPORTER

DOCKET/FILE NUMBER: PO93900
CASE TITLE: FTC HEARING ON THE EVOLVING IP MARKETPLACE
HEARING DATE: MAY 4, 2009

I HEREBY CERTIFY that the transcript contained herein is a full and accurate transcript of the digital audio recording transcribed by me on the above cause before the FEDERAL TRADE COMMISSION to the best of my knowledge and belief.

DATED: MAY 18, 2009

SUSAN PALMER

CERTIFICATION OF PROOFREADER

I HEREBY CERTIFY that I proofread the transcript for accuracy in spelling, hyphenation, punctuation, and format.

NANCY PALMER